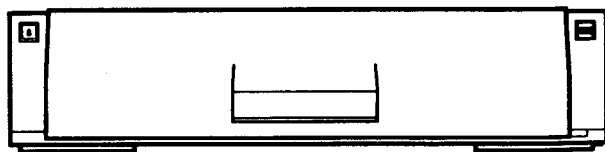# GoldStar

8 VHS DOUBLE DECK
PAL

VIDEO CASSETTE RECORDER

SERVICE MANUAL

CAUTION
BEFORE SERVICING THE CHASSIS, READ THE"SAFETY
PRECAUTIONS" IN THIS MANUAL

MODEL : R-DD15PQ

GS GoldStar

TABLE OF CONTENTS

PRINTED CIRCUIT BOARD DIAGRAMS

SECTION 4   MECHANISM

SECTION 4-1
VHS DECK MECHANISM

FRONT LOADING MECHANISM DISASSEMBLY

DECK MECHANISM DISASSEMBLY 4-10

MECHANISM ADJUSTMENT 4-21

SECTION 4-2
8mm DECK MECHANISM

SECTION 5
REPLACEMENT PARTS LIST

SECTION1 SUMMARY

KEY TO ABBREVIATIONS

A	AC	: Alternating Current
	ACC	: Automatic Color Control
	ADJ	: Adjust
	A/E	: Audio Erase
	AFC	: Automatic Frequency Control
	AFT	: Automatic Fine Tuning
	AGC	: Automatic Gain Control
	ALC	: Automatic Level Control
	AM	: Amplitude Modulation
	AMP	: Amplifier
	ANT	: Antenna
	APC.	: Automatic Phase Control
	ASS'Y	: Assembly
	AUD	: Audio
	AUTO	: Automatic
	AUX	: Auxiliary
B	B	: Base
	BPF	: Bandpass Filter
	BW or B/W	: Black and White
C	C	: Capacitor, Chroma, Collector
	CAN	: Cancel
	CAP	: Capstan
	CATV	: Cable Television
	CBA	: Circuit Board Assembly
	CCD	: Charge Coupled Device
	CFG	: Capstan Frequency Generator
	CH	: Channel
	CHROMA	: Chrominance
	CLK	: Clock
	CNR	: Chroma Noise Reduction
	COMB	: Combination
		Comb Filter
	COMP	: Comparator
		Composite
		Compensation
	CONV	: Converter
	CS	: Chip Select
	CST	: Cassette
	CTL	: Control
	CUR	: Current
	CYL	: Cylinder
D	D	: Drum, Digital, Diode, Drain
	dB	: Decibel
	DC	: Direct Current
	DEMOD	: Demodulator
	DET	: Detector
	DEV	: Deviation
	DHP	: Double High Pass
	DIGITRON	: Digital Display Tube
	DL	: Delay Line
	DOC	: Drop Out Compensator
	D/V	: Dummy Vertical
E	E	: Emitter
	EE	: Electric to Electric
	EMP	: Emphasis
	EP	: Extended Play
	EQ	: Equalizer
	ES	: Electrostatically Sensitive
F	F	: Fuse
	FB	: Feed Back
	FBC	: Feed Back Clamp
	FE	: Full Erase
	FF	: Fast Forward
	FG	: Frequency Generator
	FL	: Filter
	FM	: Frequency Modulation
	F/R	: Front/Rear
	FS	: Frequency Synthesizer
	FSC	: Subcarrier Frequency
	F/V	: Frequency Voltage
	FWD	: Forward
G	GEN	: Generator
	GND	: Ground
H	H	: High, Horizontal
	Hz	: Hertz
I	IC	: Intergrated Circuit
	IF	: Intermediate Frequency
	INS	: Insert
	I/O	: Input/Output

L	L	: Low, Left, Coil
	LD	: LED
	LECHA	: Letter Character
	LP	: Long Play
	LPF	: Low Pass Filter
M	MAX	: Maximum
	MD	: Modulator
	MIC	: Microphone
	MIN	: Minimum
	MIX	: Mixer, Mixing
	M.M.	: Mono Multi Vibrator
	MMV	: Monostable Multivibrator
	MOD	: Modulation, Modulator
	MODEM	: Modulator-Demodulator
N	NR	: Noise Reduction
O	OSC	: Oscillator
	OSD	: On Screen Display
P	PB	: Playback
	PCB	: Printed Circuit Board
	PG	: Pulse Generator
	PLL	: Phase Locked Loop
	P-P	: Peak-to-Peak
	PRE-AMP	: Preamplifier
	PS	: Phase Shift
	PWM	: Pulse Width Modulation
Q	Q	: Transistor
	QH	: Quasi Horizontal
	QSR	: Quick Setting Record
	QTR	: Quick Timer Record
	QV	: Quasi Vertical
R	R	: Resistor, Right
	RE(or RC)	: Remocon, Receiver
	REC	: Recording
	REF	: Reference
	REG	: Regulated, Regulator
	REMOCON	: Remote Control(unit)
	REV	: Reverse
	REW	: Rewind
	RF	: Radio Frequency
	R/P	: Record/Playback
	RTC	: Real Time Counter
S	S	: Serial
	SH	: Shift
	SHARP	: Sharpness
	SIF	: Sound Intermediate Frequency
	SLD	: Side Locking
	S/N	: Signal to Noise Ratio
	SP	: Standard Play
	SUB	: Subtract, Subcarrier
	SW or S/W	: Switch
	SYNC	: Synchronization
	SYSCON	: System Control
T	T	: Coil
	TP	: Test Point
	TR	: Transistor
	TRK	: Tracking
	TRANS	: Transformer
	TU	: Tuner, Take-Up
U	UHF	: Ultra High Frequency
	UNREG	: Unregulated
V	V	: Volt, Vertical
	VA	: Always Voltage
	VCO	: Voltage Controlled Oscillator
	VGC	: Voltage Gain Control
	VHF	: Very High Frequency
	VISS	: VHS Index Search
	VR	: Variable Resistor or Volume
	V-Sync	: Vertical Synchronization
	VTG	: Voltage
	VV	: Voltage to Voltage
	VXO	: Voltage X-tal Oscillator
W	W	: Watt
	WHT	: White
	W/O	: With Out
X	X-TAL	: Crystal
Y	Y/C	: Luminance/Chrominance
	YNR	: Luminance Noise Reduction
Z	ZD	: Zener Diode

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▦) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistor

Fig. 1

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.(Fig. 1)

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10-15Kg of force in any direction will not loosen it.(Fig. 2)

9. Also check areas surrounding repaired locations.

Power cord

Fig. 2

10. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.
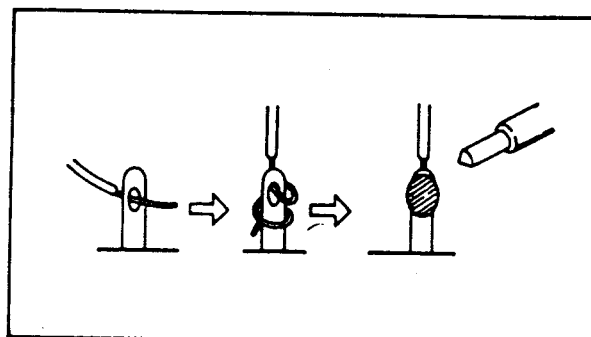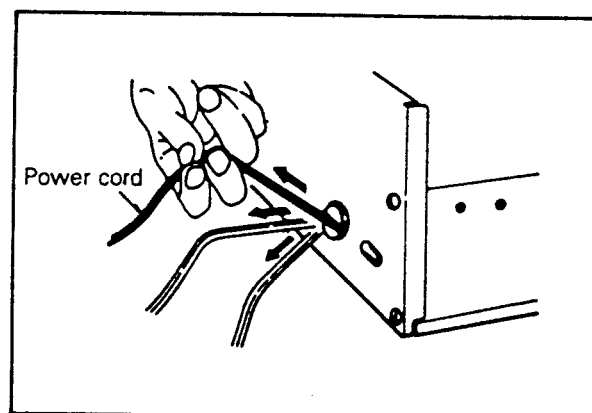
SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set(RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.
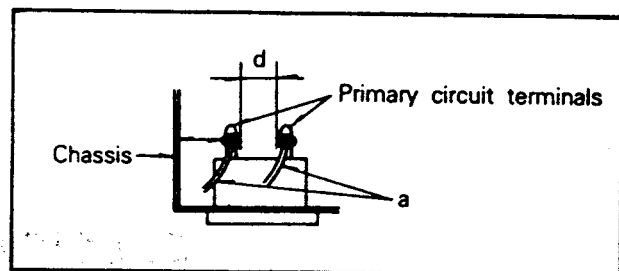
Fig. 3

Table 1:Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d)
*110 to 130 V 200 to 240 V	Europe Australia	≧10 MΩ/500 V DC	4kV 1 minute	≧6mm(d) ≧8mm(d) (a Power cord)

*Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)
Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.
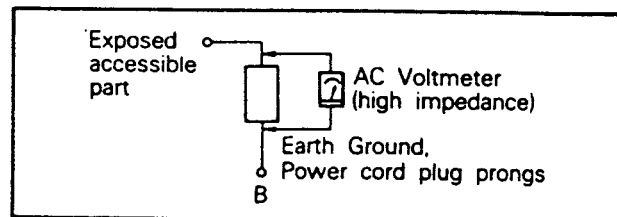
Fig. 4

Table 2:Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to:
100 to 130 V	Europe	2kΩ	i≦0.7m A peak i≦2m A dc	Antenna earth terminals
200 to 240 V	Australia	50kΩ	i≦0.7m A peak i≦2m A dc	Other terminals

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INTRODUCTION

This service manual provides a variety of service information. It contains the mechanical structure of the Double Deck Video Cassette Recorder together with mechanical adjustments and the electronic circuits in schematic form. This Double Deck VCR was manufactured and assembled under our strict quality control standards and meets or exceeds industry specifications and standards.

FEATURES

- the VHS and 8 mm system with HQ-picture technology for extraordinary picture-sharpness and high resolution.
- the digital tracking automatic which makes the enjoying manual control obsolete.
- automatic power and playback.
- four VHS video heads for a clear still image and a variable slow motion.
- three 8 mm video heads for 8 mm playback only.
- assemble editing from 8 mm tape to VHS tape.
- the easy searching of your recordings by automatic and manual index marking, that can also be erased.
- the quick mechanism for fast tape function transitions.
- the long play VHS recording and playback facility.
- the real time tape counter and the VHS remaining tape time display.
- 8 timer programme memories, also for daily or weekly recurring recordings, within one year can be programmed at the same time.
- the on-screen display of many functions e.g. the stored timer programmes.
- and many more, like additional audio and video input at the front, Euro-AV sockets, audio dubbing, child lock, immediate recording timer, and title generator.
- SHOWVIEW : Optional Function
  ShowView is a trademark applied for by Gemstar Development Corp.
  ShowView system is manufactured under license from Gemstar Development Corporations.

SPECIFICATIONS

General

Power supply :	AC 230V($\pm$ 10%), 50Hz
Power consumption :	Approx. 45W
Cabinet size(W x H x D) :	430 x 99 x 390mm
Weight :	Approx. 8Kg
Operating temperature :	5° C to 35° C surrounding temperature
Operating humidity :	35-80%

8 mm Player section

Format :		8 mm PAL Standard
Heads :		3 video heads
Tape speed :	(SP)	20.05 mm/sec.
	(LP)	10.025 mm/sec.
Tape width :		8 mm
Video output :		1 Vpp 75 ohm unbalanced
Audio output :		500 mV, <1 kohm

VHS Recorder section

Format :		VHS PAL Standard
Heads :		4 video heads
Tape speed :	(SP)	23.39 mm/sec.
	(LP)	11.635 mm/sec.
Tape width :		12.7 mm
Video :		PAL B/G
Recording/playback time :		300 min. (LP : 600 min.) with E-300
Aerial input :		PAL : VHF 2-12
		UHF 21-69
		CATV S1-S40
RF output :		UHF channels 32~40 (Variable)
Video input :		1 Vpp 75 ohm unbalanced
Video output :		1 Vpp 75 ohm unbalanced
S/N ratio (video) :		45dB nominal
Audio input :		500 mV, >50 kohm
Audio output :		500 mV, <1 kohm
S/N ratio (audio) :		45 dB nominal
Audio frequency range :		63-12,500 Hz nominal

* Designs and specifications are subject to change without notice.

LOCATION OF CUSTOMER CONTROLS

FRONT
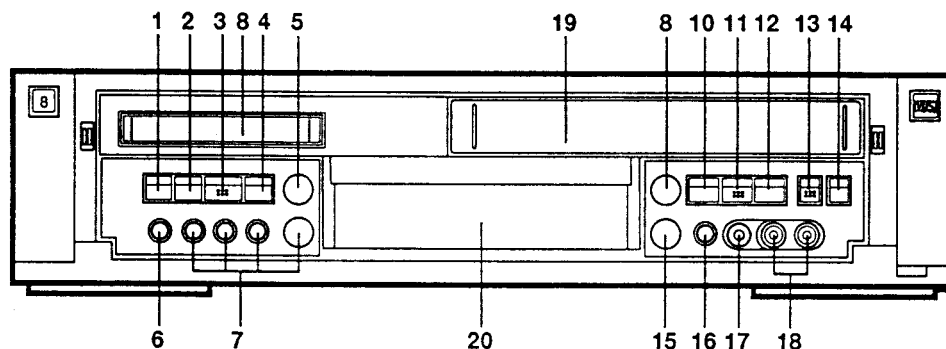
REAR
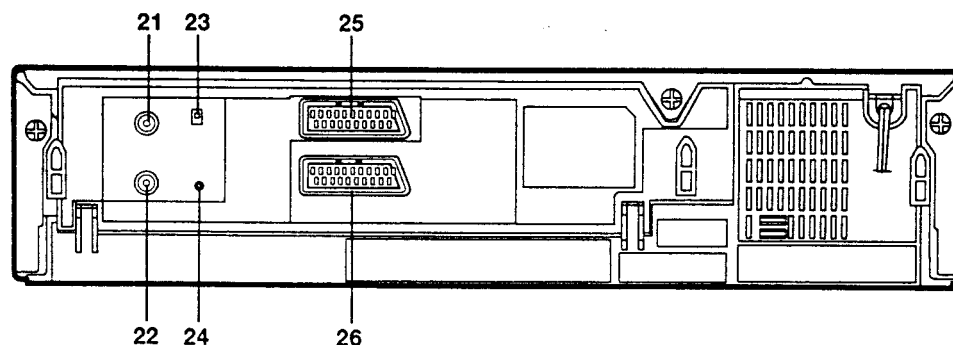
8 mm Player section

1. STILL BUTTON
2. REWIND/REVIEW BUTTON
3. PLAY BUTTON
4. FAST FORWARD/CUE BUTTON

5. STOP/EJECT BUTTON
6. V.INSERT BUTTON
7. ASSEMBLE EDITING BUTTONS
8. CASSETTE COMPARTMENT

VHS Recorder section

9. STOP/EJECT BUTTON
10. REWIND/REVIEW BUTTON
11. PLAY BUTTON
12. FAST FORWARD/CUE BUTTON
13. REC/QSR BUTTON
14. P/STILL BUTTON
15. OPERATE ON/OFF BUTTON
16. AUDIO DUBBING BUTTON
17. MIC IN JACK

18. AUDIO/VIDEO IN JACKS
19. CASSETTE COMPARTMENT
20. VCR DISPLAY
21. AERIAL INPUT SOCKET
22. RF OUT SOCKET
23. TPSG ON/OFF SWITCH
24. VIDEO CHANNEL CONTROL
25. EURO-AV 1 SOCKET
26. EURO-AV 2 SOCKET

REMOTE CONTROL
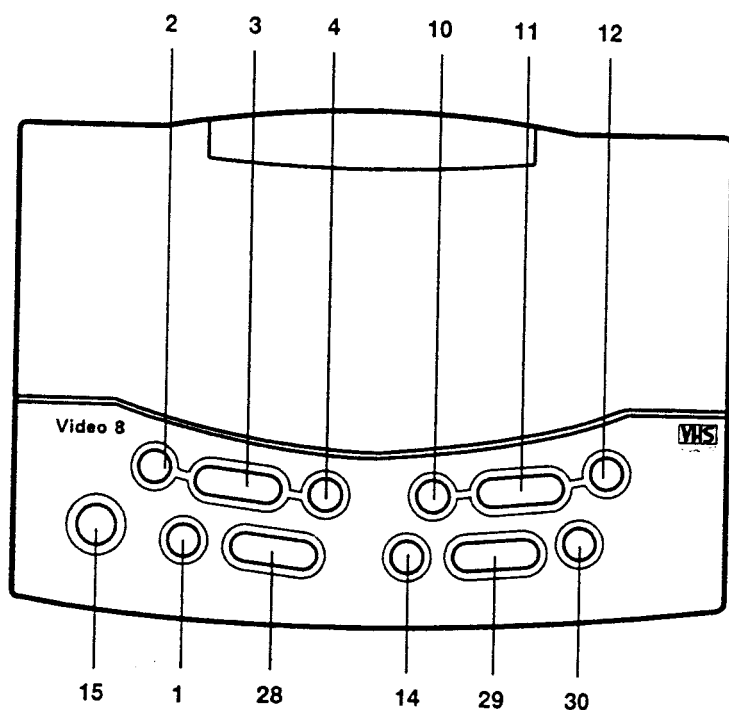
1. STILL BUTTON
2. REWIND/REVIEW BUTTON
3. PLAY BUTTON
4. FAST FORWARD/CUE BUTTON
6. VIDEO DUBBING BUTTON
7. ASSEMBLE EDITING BUTTONS
10. REWIND/REVIEW BUTTON
11. PLAY BUTTON
12. FAST FORWARD/CUE BUTTON
13. REC/QSR BUTTON
14. P/STILL BUTTON
15. OPERATE ON/OFF BUTTON
16. AUDIO DUBBING BUTTON

28. STOP BUTTON
29. STOP BUTTON
30. FRAME ADVANCE BUTTON
31. NUMBER BUTTONS
32. PROG/TRK BUTTONS (+/−)
33. TAPE SPEED BUTTON
34. TU/AV BUTTON
35. MIC MIX BUTTON
36. AUTO TRACKING BUTTON
37. 8 mm RESET BUTTON
38. VHS RESET BUTTON
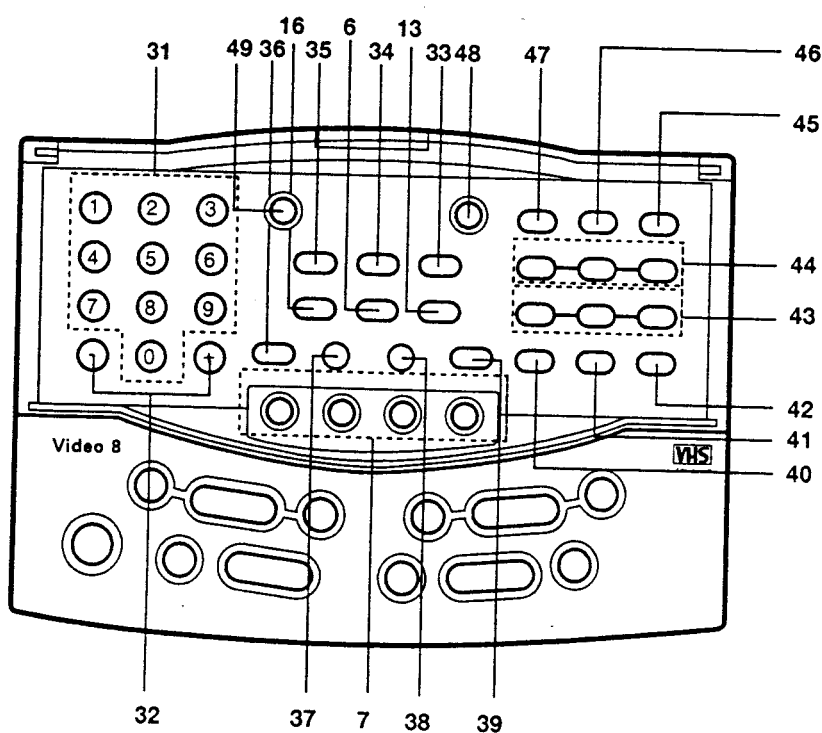
39. REST BUTTON
40. MENU BUTTON
41. DISPLAY/PG. OUT BUTTON
42. CLEAR/PG. CLR BUTTON
43. SLOW/MFT BUTTONS
44. VISS BUTTONS
45. CHILD LOCK BUTTON
46. TV/VCR BUTTON
47. VPS BUTTON : *
48. SHOWVIEW BUTTON : *
49. MONITOR BUTTON
※ * : Optional Function

SECTION 2 CABINET & MAIN FRAME
SERVICE FIXTURE CONNECTING METHOD

1. SVC FIXTURE Connecting Method

A. FIXTURE Cable ① Connecting Method.

a) Connect the FIXTURE Cable ① between Main C. B.A and Junction C.B.A. (P2J01, P2J02, P2J03)

b) At this time, should be in the left side " ◄━ LEFT" mark on the P.C.B of the FIXTURE Cable ①. (See Fig. 2-a, 2-c)

c) Connect the connector of "MAIN" mark of FIXTURE Cable ① with the Main C.B.A and the connector of "JUNCTION" mark with the Junction C.B.A. (See Fig. 2-a, 2-c)

B. FIXTURE Cable ② Connecting Method.

a) Connect the FIXTURE Cable ② between Main C. B.A and Pre-Amp Ass'y. (P3P01=P9301, P3P02=P9302)

b) At this time, should be in the left side " ◄━ LEFT" mark on the P.C.B of the FIXTURE Cable ②. (See Fig 2-a, 2-b)

c) Connect the connector of "MAIN" mark of FIXTURE Cable ② with the Main C.B.A and the connector of "JUNCTION" mark with the Pre-Amp Ass'y. (See Fig. 2-a, 2-b)
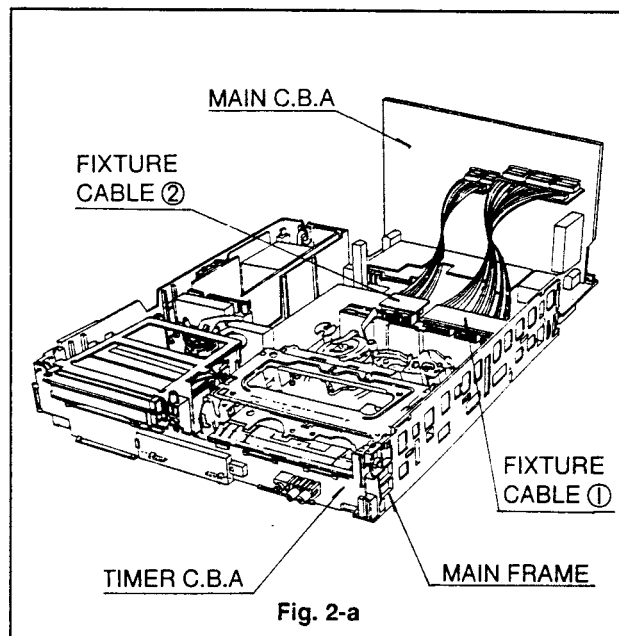
Fig. 2-a
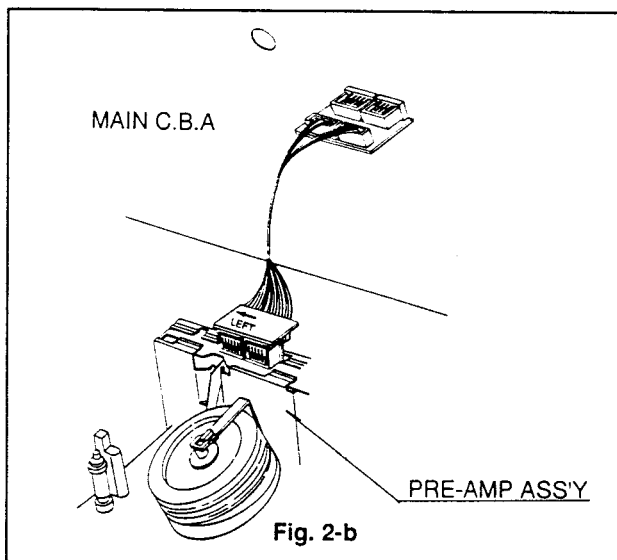
Fig. 2-b
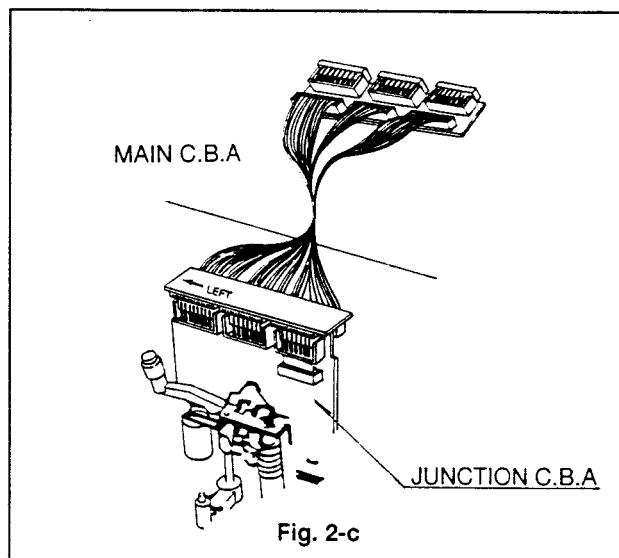
Fig. 2-c

2. Electrical Service Fixture List

A. Fixture Cable ①.

Parts No.: 232-972A (Optional Parts)

FOR DECK

FOR MAIN

B. Fixture Cable ②.

Parts No.: 515-789A (Optional Parts)

FOR PRE-AMP

FOR MAIN
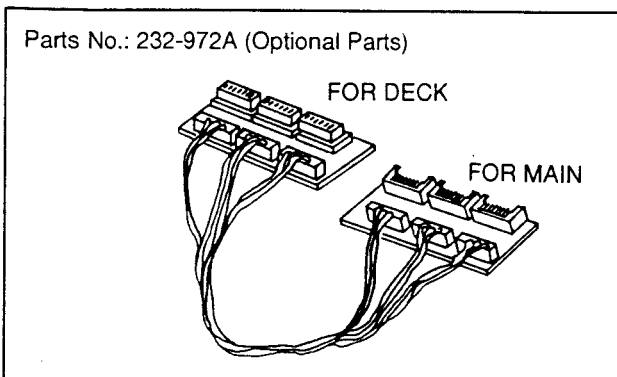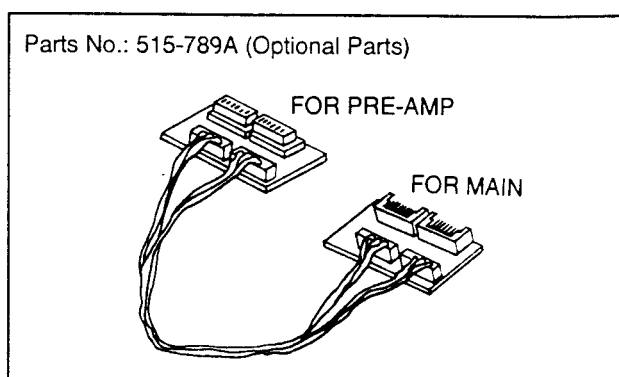
CABINET DISASSEMBLY

1. Top Case

A. Release 7 screws (1).
B. Hold the back of Top Case and lift it up slightly backward to remove it.

Fig. 2-1

2. Bottom Cover

A. Release 9 screws (2) to remove the Bottom Cover.

Fig. 2-2

3. Front Panel

A. Release 2 screws (3).
B. Remove the stoppers on the top of Front Panel.
C. Remove the stoppers on the bottom side Front Panel.

Fig. 2-3
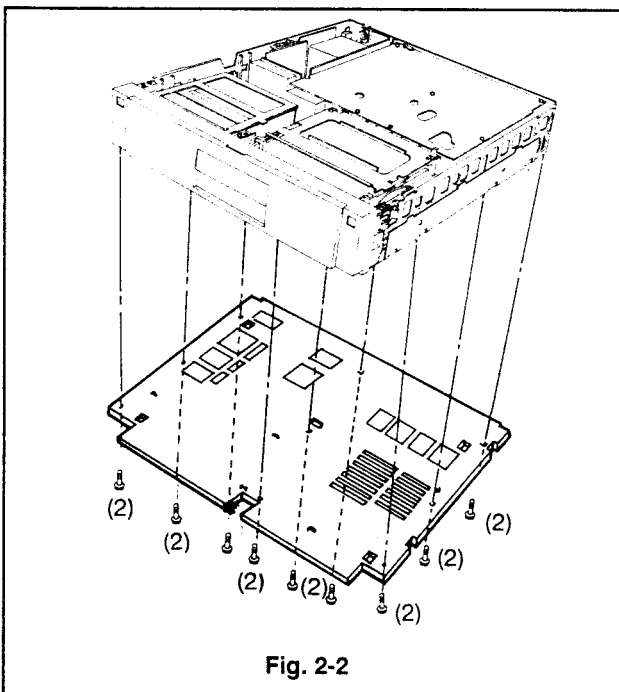
* Caution

When reassemble the Front panel, assemble it in condition of inserting the Door Cassette inside, as shown in Fig.2-4

Fig. 2-4
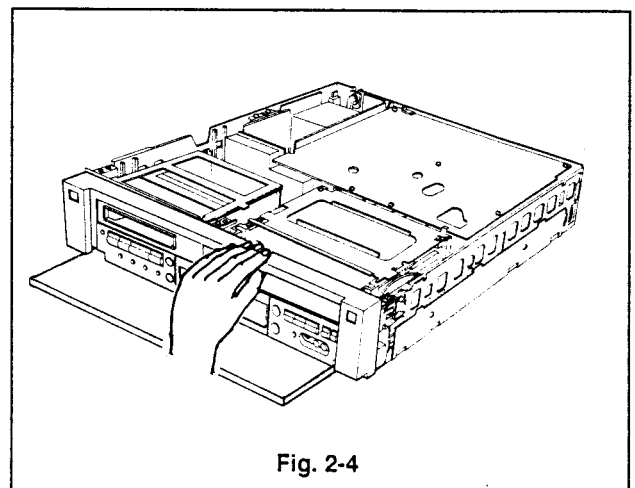
CIRCUIT BOARD DISASSEMBLY

1.Circuit Board Arrangement

POWER 1 C.B.A
POWER 3 C.B.A
8 mm MAIN C.B.A
POWER 2 C.B.A
VIDEO I/O C.B.A
8 mm PRE-AMP C.B.A
VHS MAIN C.B.A
8 mm KEY-FUNCTION C.B.A
VHS PRE-AMP C.B.A
VHS TIMER C.B.A

Fig. 2-5
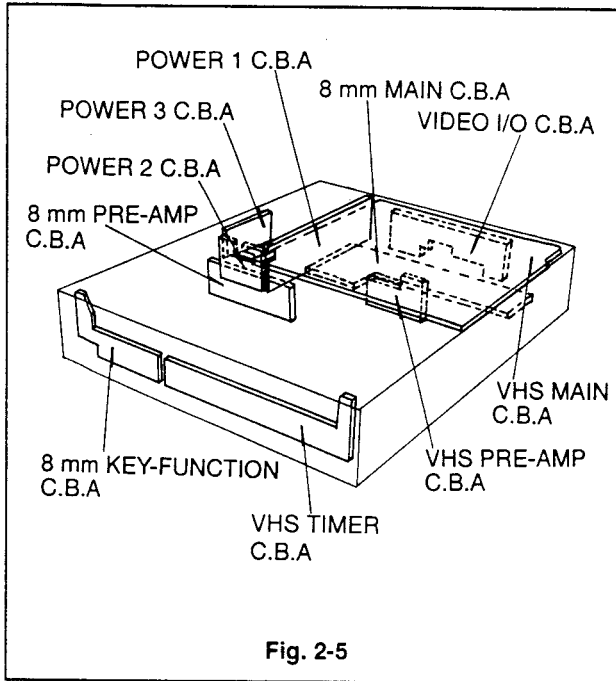
2. VHS Main Circuit Board

A. Release 6 screws (4).
B. Remove the Main C.B.A in the direction of arrow (A).

Fig. 2-6
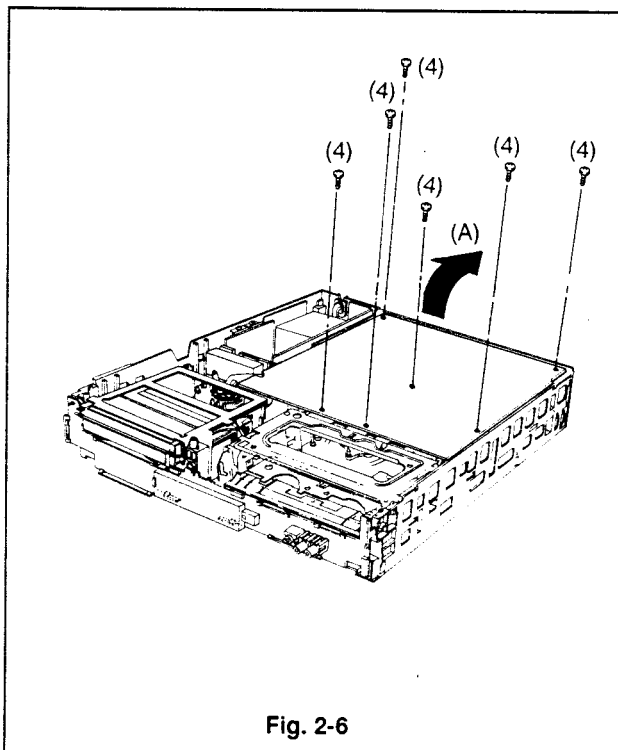
3. Power 1, 2, 3 Circuit Board

A. Remove the Bottom Cover. (Fig. 2-2)
B. Release 4 screws (5).
C. Remove the Power C.B.A in the direction of arrow (B).

Fig. 2-7
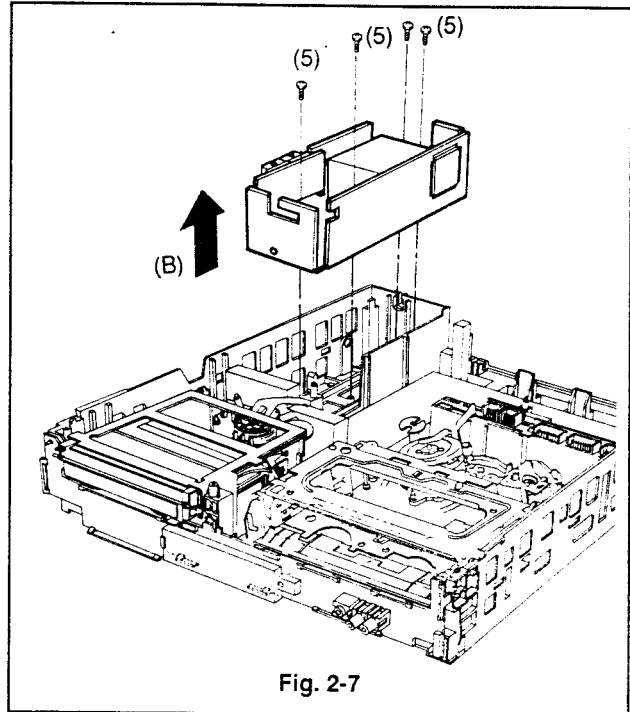
4. 8mm Main Circuit Board

A. Release 3 screws (6).
B. Remove the 8mm Main C.B.A in the direction arrow (C).

Fig. 2-8
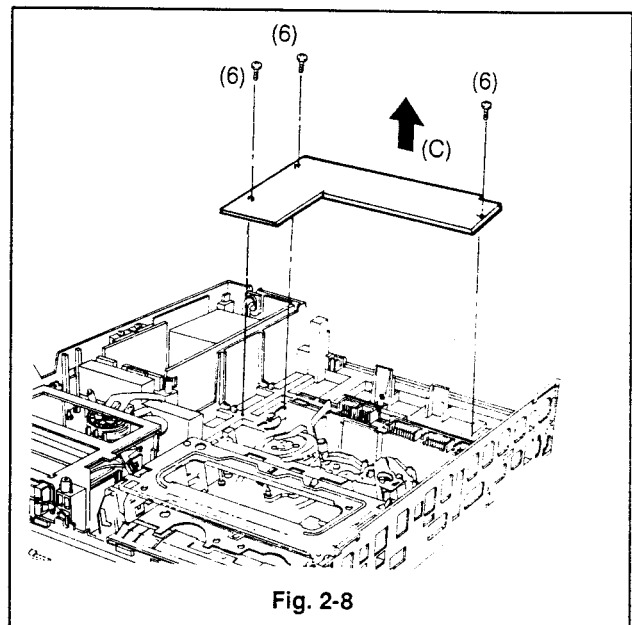
5. 8mm/VHS Pre-Amp Circuit Board

A. Release 2 screws (7).
B. Remove the 8mm Pre-Amp C.B.A.
C. Release 3 screws (8).
D. Remove the VHS Pre-Amp C.B.A.

Fig. 2-9
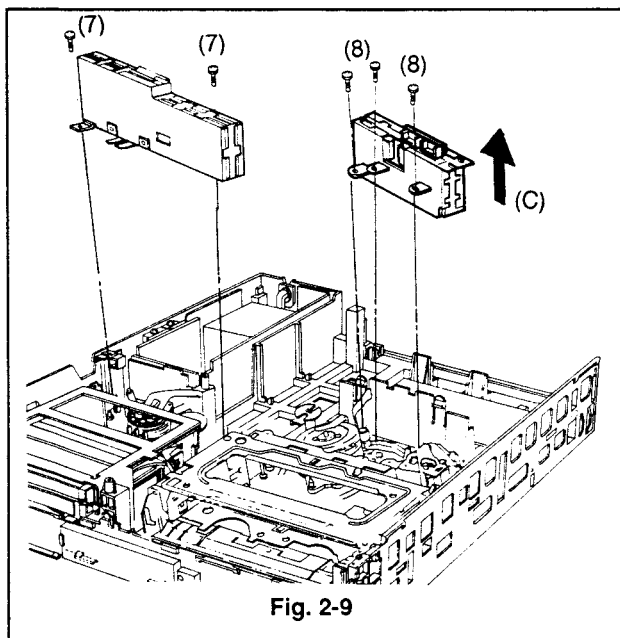
6. 8 mm/VHS Key Function Circuit Board

A. Release screw (9).
B. Release 5 stoppers in the direction arrow (D).
C. Remove the 8mm/VHS Key Function C.B.A in the direction arrow (E).

Fig. 2-10
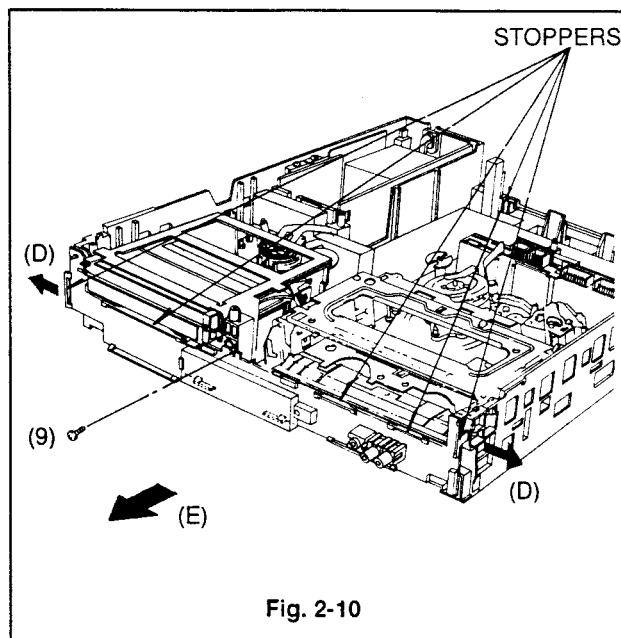
EXPLODED VIEWS

1. Cabinet & Main Frame Section

2. Packing Accessory Section

(810) CABLE SET ASS'Y

(801) INSTRUCTION ASS'Y

(808) BATTERY
(Optional Parts)

(900) REMOCON

(803) PACKING ASS'Y

(804) SHEET CUSHION

(802) BOX CARTON

3. Remote Control Section

(901)
(902)
(903)
(906)
(904)
(905)
(907)
(908)
(909)
(911)
(911)
(910)
(900)
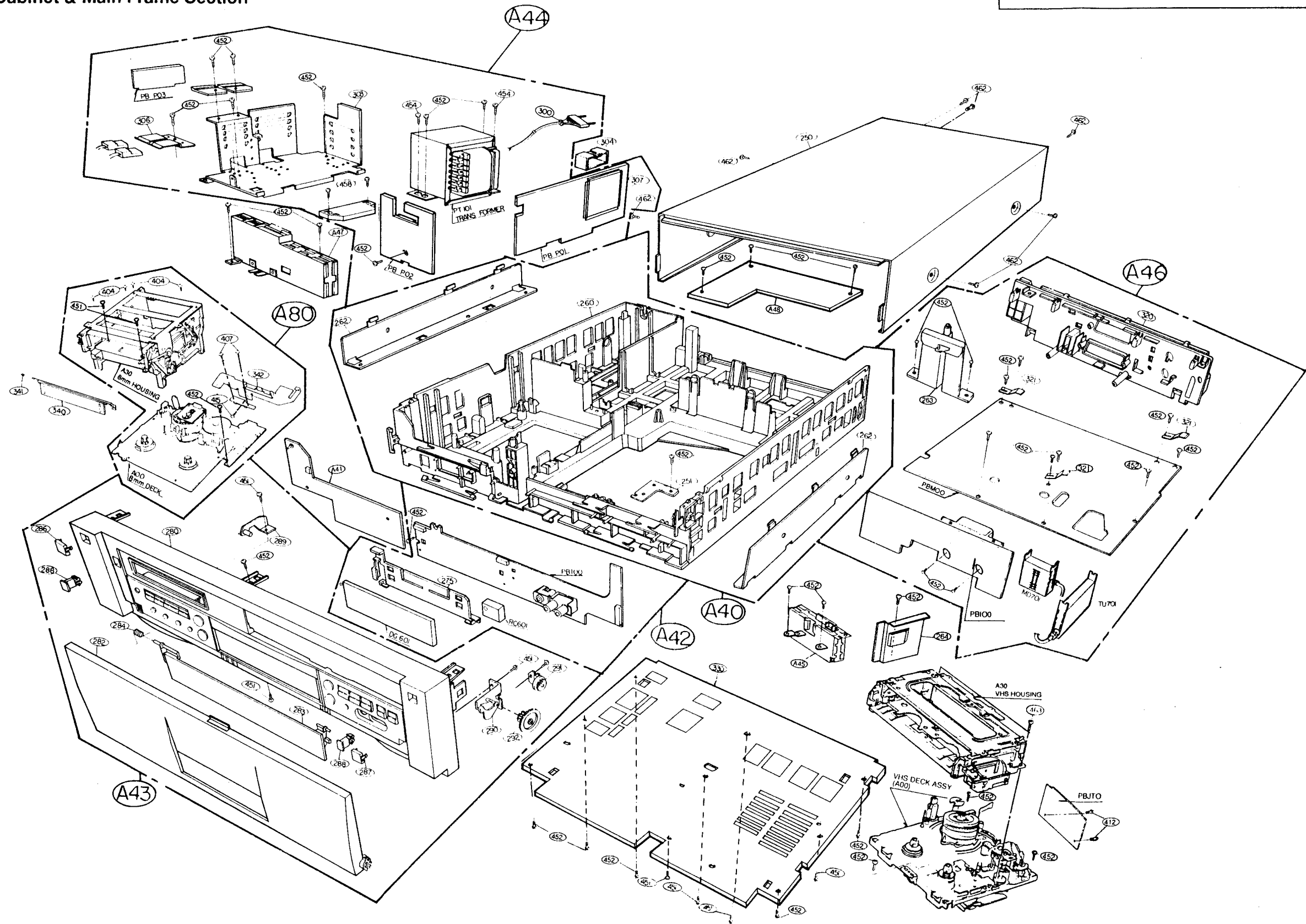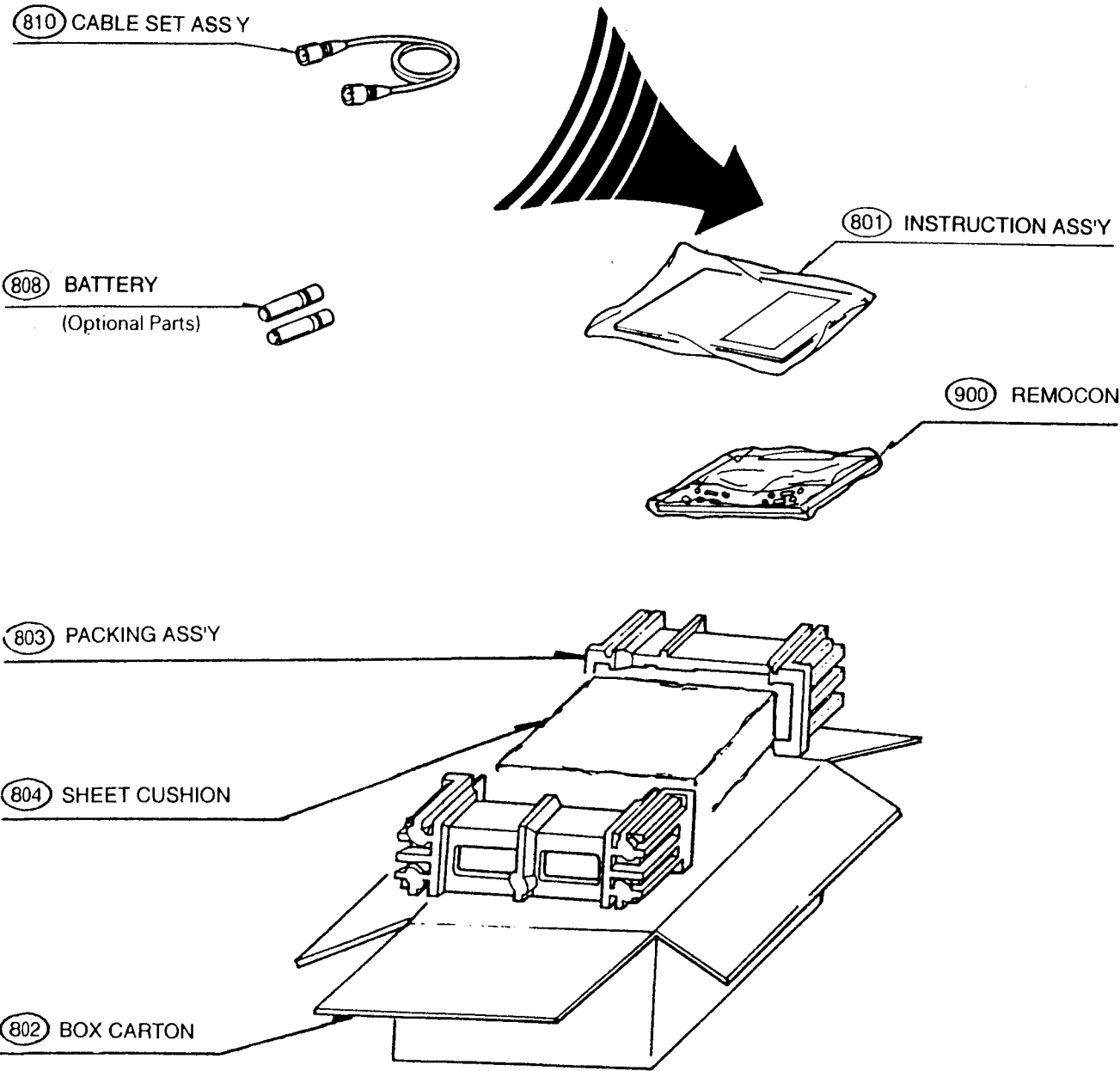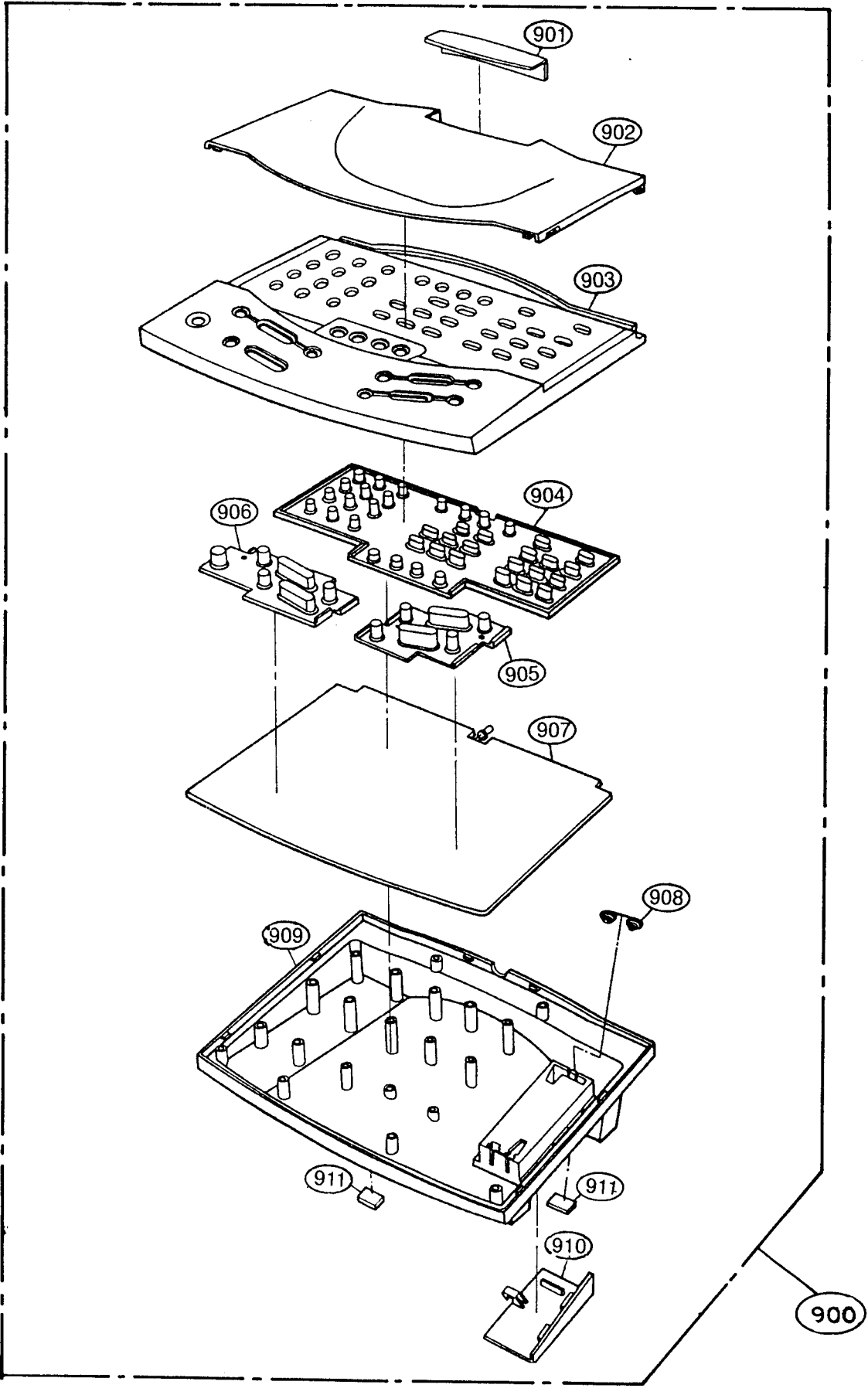
SECTION 3 ELECTRICAL

ELECTRICAL ADJUSTMENT PROCEDURES

• Electronic Test Equipment Requirement

• Oscilloscope • Video signal Generator • Modem Tester • Level Meter • Frequency Counter • Power Supply	• Monitor Scope • + Driver • Test Tape (SP)-PAL (VHS, 8mm) • Recording Tape (VHS) • Digital Multimeter

1. VHS Circuit Adjustment

1-1. Servo Circuit

1-1-1. PG Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK	6.5H±0.5H (1H=64.0μsec)	TP201 (H.SW) TP202 (V.Out terminal)	VR201

Procedure :

a. Playback a VHS PAL SP test tape.
b. Connect CH-1 of oscilloscope to TP201 (H.SW) and CH-2 to TP202 (Video Out terminal).
c. Trigger the complex Video signal to CH-1 H.SW, and adjust VR201 so that the distance from switching point of H.SW signal to the starting point of horizontal synchronized signal is 6.5H± 0.5H (416±32μsec)

Waveform

Fig. 3-1-1

1-2. Y/C Circuit

1-2-1. EE Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
STOP	2.0±0.1Vp-p	TP202	VR304

Procedure :

a. Connect the Video signal Generator to Video in terminal.
b. Input Color Bar signal to Video in terminal.
c. Connect CH-1 of oscilloscope to TP202.
d. Adjust VR304 so that the value from the lower part of synchronism to 100% white signal is 2.0 ±0.1Vp-p.

Waveform

Fig. 3-1-2

1-2-2. Playback Luminance Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	2.0±0.1Vp-p	TP202	VR305

Procedure :

a. Connect CH-1 of oscilloscope to TP202.
b. Playback a VHS PAL SP test tape (with 100% white signal).
c. Adjust VR305 so that the value from the lower part of synchronism to 100% white signal is 2.0 ±0.1Vp-p.

Waveform

2.0±0.1Vp-p
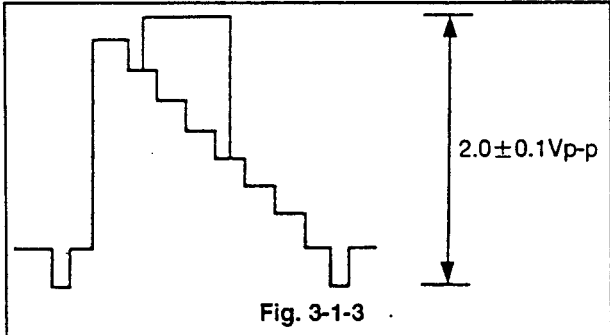
Fig. 3-1-3

1-2-3. FM Carrier Frequency Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	3.8MHz±0.05MHz at SYNC Tip	TP301 (CAR/DEV TP)	VR303

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect In terminal of Modem Tester to TP301.
c. Connect Out terminal of Modem Tester to CH-1 of oscilloscope (But the set and the Modem Tester should be connected with 10:1 probe).
d. The terminal position of Modem Tester is operated to be ATT.0dB, PAL/SECAM mode, Demod, Marker on.
e. Adjust VR303 so that SYNC Tip of video signal is agreed with 3.8MHz Marker on scope.

Waveform

4.8MHz

1MHz

3.8MHz BAR
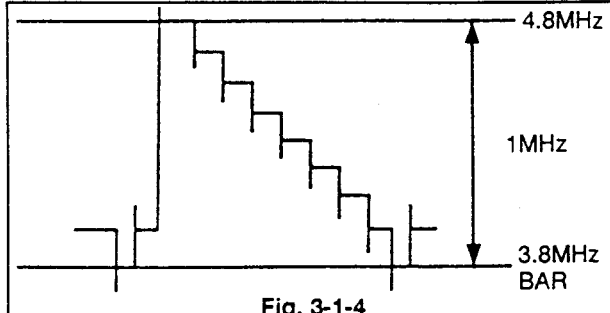
Fig. 3-1-4

1-2-4. FM Deviation Frequency Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	4.8MHz±0.05MHz at White Peak	TP301 (CAR/DEV TP)	VR301

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect In terminal of Modem Tester to TP301.
c. Connect Out terminal of Modem Tester to CH-1 of oscilloscope (But the set and the Modem Tester should be connected with 10:1 probe).
d. The terminal position of Modem Tester is operated to be ATT.0dB, PAL/SECAM mode, Demod, Marker on.
e. Adjust VR301 so that 100% white peak of video signal is agreed with 4.8MHz Marker on scope.

Waveform

4.8MHz BAR

1MHz

3.8MHz
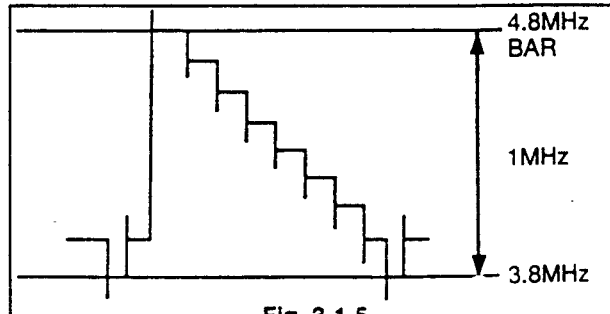
Fig. 3-1-5

1-2-5. Recording Luminance Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	350mVp-p	TP302 (REC-Y)	VR302

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect CH-1 of oscilloscope to TP202.
c. Connect CH-2 of oscilloscope to TP302.
d. Record the SP mode.
e. Adjust VR302 so that the waveform is 350mVp-p.

Waveform

350mVp-p
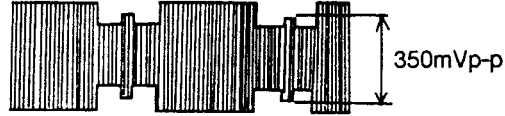
Fig. 3-1-6

1-3. Audio Circuit

1-3-1. Record Bias Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD (SP)	2.6±0.05mVrms	R436 Both Terminal	VR401

Procedure :

a. Loading the recording tape and record.
b. Connect (+), (−) terminal of Level Meter to both terminals R436.
c. Adjust VR401 so that the oscillation voltage fit to specification.

1-4. Tuner/IF Circuit

1-4-1. VIF Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
EE	2.5V±0.1V	TP702	T701

Procedure :

a. Connect as shown in Fig. 3-1-7.
b. Receive the CH-11 (217.25MHz).
c. Adjust T701 so that the Digital voltmeter 1 is 2.5 ±0.1V.

CONNECTION DIAGRAM

(MAIN C.B.A SOLDER SIDE)

Fig. 3-1-7
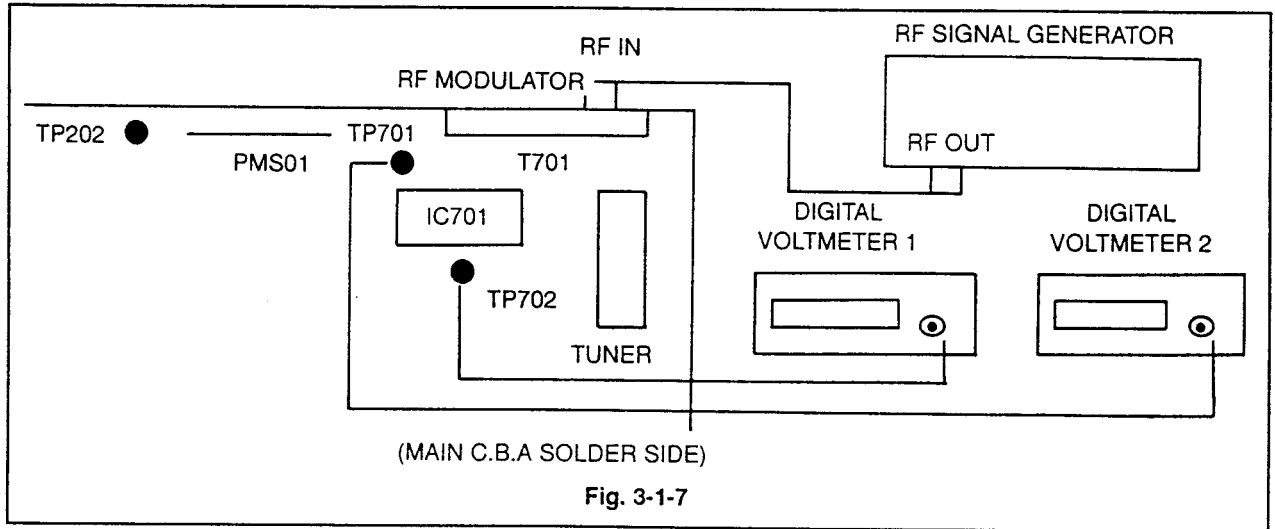
*Caution in testing

1. When practing this adjustment, adjust after more than 10minutes with TV set turning on.
2. Adjust after completing itself test of measuring apparatus.
3. Sweep OSC marker frequency is followed by Table 1.

*Abbreviation

- APC : Adjacent Picture Carrier
- SIF : Sound Intermediate Frequency
- CIF : Color Intermediate Frequency
- CEN : Center Frequency
- PIF : Picture Intermediate Frequency
- ASC : Adjacent Sound Carrier

Table 1 Frequency Table (MHz)

BROADCASTING SYSTEM	ADJUSTMENT MARKER FREQUENCY					
	APC	SIF	CIF	CEN	PIF	ASC
PAL B/G+SECAM L	31.90	33.40	34.47	36.00	38.90	40.40

1-4-2. RF AGC Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
EE	4.7 $^{+0.1}_{-0}$V	TP701	VR701

Procedure :

a. Connect as shown in Fig. 3-1-7.
b. Receive the CH-11(217.25MHz, strength of input electric field : 70dBμV).
c. Adjust VR701 so that the Digital voltmeter 2 is 4.7 $^{+0.1}_{-0}$V.

2. 8mm Circuit Adjustment

2-1. Servo Circuit

2-1-1. PG Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK	7H±1.8H (1H=64.0μsec)	TP4K1 (H.SW) TP3A1 (V.Out terminal)	VR501

Procedure :

a. Playback a 8mm PAL SP test tape.
b. Connect CH-1 of oscilloscope to TP4K1 (H.SW) and CH-2 to TP3A1 (Video Out terminal)
c. Trigger the complex Video signal to CH-1 H.SW, and adjust VR501 so that the distance from switching point of H.SW signal to the starting point of horizontal synchronized signal is 7H± 1.8H (448±115.2μsec).

Waveform

Fig. 3-2-1

2-2. Y/C Circuit

2-2-1. Playback Output Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	1.0±0.05Vp-p	TP3A1	VR3A1

Procedure :

a. Connect CH-1 of oscilloscope to TP3A1.
b. Playback a 8mm PAL SP test tape (Color bar with 100% white signal).
c. Adjust VR3A1 so that Video out level is 1.0± 0.05Vp-p.

Waveform

Fig. 3-2-2

2-2-2. Color VCO Adjustment
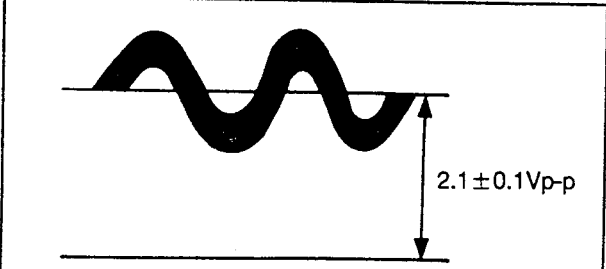
MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	DC2.5±0.1Vp-p	TP3A2	FL3A2

Procedure :

a. Connect CH-1 of oscilloscope to TP3A2.
b. Playback a 8mm PAL SP test tape (Color bar with 100% white signal).
c. Adjust FL3A2 so that DC level is 2.5±0.1Vp-p.

2-3. Audio Circuit

2-3-1. FM VCO Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	DC2.1±0.1Vp-p	TP4A2	VR4A2

Procedure :	Waveform
a. Connect CH-1 of oscilloscope to TP4A2. b. Playback a 8mm PAL SP test tape (with 400Hz Audio signal). c. Adjust VR4A2 so that Center Voltage is DC2.1 ± 0.1Vp-p.	 2.1±0.1Vp-p Fig. 3-2-3

2-3-2. FM Deviation Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	6±0.5dBm	TP4A1 (Audio Out terminal)	VR4A1

Procedure :

a. Connect (+) terminal of Level Meter to TP4A1 (Audio Out terminal).
b. Playback a 8mm PAL SP test tape (with 1KHz or 400Hz Audio signal).
c. Adjust VR4A1 so that level is 6±0.5dBm.

BLOCK DIAGRAMS

1. VHS Block Diagrams

1-1. Power Block Diagram

1-2. Pre-Amp Block Diagram

1-3. Y/C Block Diagram

1-4. Tuner/IF & Audio Block Diagram

1-5. In/Out & Function OSD Block Diagram

1-6. Main System (Servo, Syscon, Timer) Block Diagram

TO TUNER
- PLL CLOCK
- SECAM VL H
- PLL DATA
- PLL CLOCK
- PLL ENABLE

TO/FROM VHS Y/C
- H/SW
- FSC(4.43MHz)
- C. SYNC
- DV SYNC
- SP 'H'
- LP 'H'
- REC H
- PB H
- VHS W/EE
- SLOW 'L'
- MAN./AU./STL.
- FL ERASE
- V. ENV.
- V. RECS
- SECAM H
- SECAM DETECT H

TO VHS AUDIO
- FULL ERASE
- A. MUTE
- LIN RECS
- AUDIO W
- MIC MIX SEL

TO/FROM PREMIERE
- VPS DATA
- VPS CLOCK
- OSD CS
- OSD CLOCK
- OSD DATA
- A/V IN SEL2
- A/V IN SEL1
- 8M IN SEL
- TU/S1 SEL(EXT H)
- A/V OUT SEL2
- A/V OUT SEL 1
- TU/AV CNT H
- PREMIER CETECT
- SYNC DETECT

VHS Y/C ↔ VHS SERVO

TUNER ↔ VHS SYSCON

VHS Y/C ↔ VHS SERVO

VHS Y/C ↔ VHS SYSCON

VHS AUDIO ↔ VHS SYSCON

PREMIERE ↔ VHS SYSCON

KEY ↔ VHS SYSCON

DIGITRON ↔ VHS SYSCON

KEY ↔ 8M SYSCON

POWER LED

KEY

R/C RECV.

IC204 X24C02AP
- 8 7 6 5
- DATA CLOCK
- 1 2 3 4

IC201 M38184MA VHS SYSCON
- (61) PB H
- (60) REC H
- (98) VHS W/EE
- (77) SECAM DETECT H
- (97) SECAM H
- (96) SLOW 'L'
- (18) MAN./AU./STL.
- (59) FL ERASE
- (95) V. ENV.
- (58) V. RECS
- (41) MIC MIX SEL
- (23) AUDIO W
- (10) FULL ERASE
- (24) A. MUTE
- (22) LIN RECS
- (15) A/V OUT SEL2
- (16) A/V OUT SEL1
- (2) VPS DATA
- (1) VPS CLOCK
- (7) OSD CS
- (8) OSD CLOCK
- (9) OSD DATA
- (11) A/V IN SEL2
- (12) A/V IN SEL1
- (13) 8M IN SEL
- (14) TU/S1 SEL
- (17) TU/AV CNT H
- (78) PREMIER DETECT
- (79) SYNC DEYECT

- (43)(42)(20)(4) TV/VCR SECAM VL H PLL CLOCK PLL ENABLE

- VHS F. LED FLD CLOCK FLD DATA FLD STROBE (73)(75)(74)(76)
- 8M CON CS S-CLOCK S-OUT S-IN POWER FAIL SYSTEM SYNC (3)(4)(5)(6)(30)(80)

- FF/REW (52)
- SERVO CLOCK (10)
- SERVO/PLL DATA (21)
- CTL DIVIDE (25)
- MECHA CTL (26)
- CFG DIVIDE (33)
- CTL CLOCK (34)
- D. ADJ1 (51)
- D. ADJ2 (50)
- SLOW ACCEL (54)
- CAP. BRAKE (53)
- CAP. REVERSE (49)
- VISS DET. (56)
- H/SW 25 (55)
- T-UP SENSOR (48)
- SUP. SENSOR (47)
- CST SW (46)
- LOAD(-) (29)
- LOAD(+) (28)
- MODE C (31)
- MODE B (32)
- MODE A (45)
- VHS LD CTL (27)

VHS SYSCON ↕ 8M SYSCON

IC602 uPD16311
- 30 G1
- 32 G3
- 35 G4
- 44 G13
- FLD DATA (6)
- FLD CLOCK (8)
- FLD STROBE (9)
- P1 — P15
- 29 — 15

DIGITRON DRIVER

CXP80724 8M SYSCON
- (2) MIC IN
- (3) REMOCON
- (49) KEY1
- (50) KEY2
- (44)(47)(45)(48)(40)(7) MIC IN S-OUT S-IN POWER FAIL SYSTEM SYNC 8M CON CS S-CLOCK
- VHS SUP. REEL (63)
- VHS T-UP REEL (64)

EDIT VCR ST H 8 SEP

VHS SERVO

IC202
HD49756NT
MAIN SERVO

VHS SYSCON ↔ VHS SERVO

VHS Y/C ↔ VHS SERVO

IC 201
HD49756NT

LOOP FILTER

MODE OUTPUT

LOOP FILTER   PHASE COMPEN   PHASE COMPEN   LOOP FILTER

LP 'H'
SP 'H'

D. ADJ1
D. ADJ2

SLOW ACCEL.
CAP. BRAKE

CAP. BRAKE

FF/REW (52)
SERVO CLOCK (10)
SERVO/PLL DATA (21)
CTL DIVIDE (25)
MECHA CTL (26)
CFG DIVIDE (33)
CTL CLOCK (34)
D. ADJ1 (51)
D. ADJ2 (50)
SLOW ACCEL (54)
CAP. BRAKE (53)
CAP. REVERSE (49)
VISS DET. (56)
H/SW 25 (55)

T-UP SENSOR (48)
SUP. SENSOR (47)
CST SW (46)
LOAD(-) (29)
LOAD(+) (28)
MODE C (31)
MODE B (32)
MODE A (45)
VHS LD CTL (27)

IC203
GL7445

ULD Vref IN1(LD) IN2(ULD) LD
1 2 3 4 5 6 7 8 9 10

ULD   LOAD(+) LOAD(-)   LD

VHS SYSCON ↔ DECK

T-UP SENSOR
SUP. SENSOR
CST SW
ULD
LD
MODE C
MODE B
MODE A

VHS SUP. REEL
VHS T-UP REEL

DECK

VISS DET.

DRUM   CTL HEAD   CAPSTAN
MDA   TAPE

Q CTL   CTL(+) CTL(-)   C CTL   CFG

DPG
DFG

VHS SUP. REEL (63)
VHS T-UP REEL (64)

EDIT VCR ST H 8 SEP ◯ SEP VHS HIFI VPS REM PDC

AM BL ST
PM M SQPB

DIGITRON

2. 8mm Block Diagrams
2-1. Main System (Servo, Syscon) Block Diagram

IC502 PST 523D
(RESET)

Reset ③ GND ② Vcc ①

IC501 CXP80724

〈 VHS SYSCON 〉
P5207

RESET	㊵ RESET(L)
VHS TAKE UP	㊽ VHS TAKE UP REEL
VHS SUPPLY	㉖ VHS SUPPLY REEL
CSO	㊹ CSO
SIO	㊺ SIO
SOO	㊻ SOO
SCKO	㊼ SCKO
SYSTEM SYNC	⑦ SYSTEM SYNC

〈 8mm Y/C 〉

IC DATA	③ JOG VD
JOG VD	
STILL L	㊽ STILL L
PB H	⑧ 8mm PB H
Hi-8mm	㊻ Hi-8mm
H/SW	① H/SW
IC CLK	

〈 8mm AUDIO 〉

H/SW	㊲ A.MUTE
AUDIO MUTE	

㊷ X IN

㊸ X OUT

〈 TIMER 〉
P5605

MIC DET IN L	�57 MIC IN L
REMOCON	㊙ REMOCON

KEY2 → ㊿ KEY2

〈 DECK 〉
P5E02

MOD 0	㉚ MOD 0
MOD 1	㉙ MOD 1
MOD 2	㉘ MOD2
TOP C	㊿ TOP
CST IN	㉕ CST IN
HP/HG	㉖ HP/HG
ME/MP	㉗ ME/MP
TAKE UP C	㊾ 8mm TAKE UP
REC PROOF	㉔ REC PROOF
SUPPLY C	㊾ 8M SUPPLY

〈 8mm ATF 〉

SP/LP DET	㊻ SP/LP DET
CLOG	㊽ CLOG
ATF ERROR	㉖ ATF ERROR
SEL1	⑩⑩ SEL1
SEL2	㊾㊾ SEL2
ATF CS	⑯ ATF CS
IC CLK	
IC DATA	

D.PWM	㊼
DRUM ON	⑳
DRUM R/F	㊽
DPG	㊻
DFG	㊾
CFG	㊿
C.PWM	㊻
CAP F/R	㊼
CAP ON	㉑
FLOAD (+)	⑪
FLOAD (-)	⑫
LOAD(+)	⑬
LOAD (-)	⑭
END	㊾
KEY1	㊾
8 LED CNT	㉟

A   B   C   D   E

UNREG11V

IC507 GL7406
(D.M.DRIVE)

SILE-NCE

LPF

31 29   10 14 21 25
30   Uin 22   LPF
(12) Vcc1   OUTPUT   Vin 23   LPF
(32) Vcc2   DRIVER   Win 24   LPF
STBY   OUTPUT U 19
7   START   TIMING SOFT   DRIVER   17
    CONTROL CONTROL SWITCHING BUFFER V
5   DRIVER   W 15
3   DIR
          1 2   16 18

⟨ DRUM.M ⟩
P5E04

COM UVW
DRUM U
DRUM V
DRUM W
PG+
COM PG FG
FG+

IC506 CXA1512M (C.M.DRIVE)

9   WAVE SHAPER   6
                   4
     2V DC BIAS   5
10   WAVE   1
     SHAPER LPF
12   14
                 13
     3 2

UNREG 11V

LPF   +

IC505 CXA1127M (PG.FG.AMP)

⟨ CAPSTAN.M ⟩
P5E01

FG+
FG-
CAP.U
CAP.V
CAP.W
HE VH+
HE VH-
HW-
HW+
HV+
HV-
HU-
HU+

8   Vs
29 FHC
13 STBY
    POWER
    OFF
(11) Vcc1
(10) Vcc3
9   Vcc2

UHE   U 4
VHE   V 3   LOGIC
WHE   W 6
                  VH+ 21
            HE POWER 22
                  VH+ 23

IC503 LB1836M (FLLD.LD.M.DRIVE)

2 IN1   OUT1 3
6 IN2   OUT2 5
13 IN3   OUT3 12
9 IN4   OUT4 9

⟨ DECK ⟩

	P5E03
8	EL LD
7	EL UNLD
2	LOAD
I	UNLOAD
3	TOP LED
4	MOTOR GND
6	N.C
5	END

⟨ KEYBOARD ⟩

	P5606
4	KEY1
I	8mm LED CNT
2	5VA
3	GND

3-19   F   G   H   3-20   I   J   K

2-2. Main Analog (Y/C, Audio) Block Diagram

2-3. Pre-Amp Block Diagram

CIRCUIT DIAGRAMS

1. VHS Circuit Diagrams

1-1. Power Circuit Diagram

Q101, ZD101 are defective.
No 33VA Power.

Q102, ZD102, ZD103 are defective.
Digitron Character misoperate.

PWR TRANS (PT 101)

R113 1
R112 1
R101 1K
R102 1K
R109 1K

IC101 STK51427

C101 0.047
C102 0.047
FL101 616-004B
F101 500mA/250V

C103 0.047
D101 1N4003
R103 5.6K
Q101 C2236
C104 100/63
C105 47/50
ZD101 33V
C106 47/50
D102 1N4003
Q102 A966A
R104 15K
C107 100/63
C108 22/50
ZD102 27V
C109 22/50
ZD103 5.6V
R105 100K

C115 47/50
C116 47/50

R106 8.2K
R107 10K
R108 2.2K
C112 22/50
C113 22/50
C11747/50
C118 470/6.3

Q103 C2236
R11 560
C133 100/10

PWR DEVICE
ERROR AMP REF VOLTAGE
14.7VA 1.5A
12.3V 1.5A
6VA 1A
5.5V 1A
CUT OFF
GND

C110 4700/35
C111 4700/16

TO MAIN BD

	P1201		
15	-28VA	DIGITRON	
14	AC 3.4VA	DIGITRON	
13	AC 3.4VA	DIGITRON	
12	6VA	VHS u-COM ,VHS SERVO	
11	VPS 'L'		
10	A GND		
9	5.5V	VHS Y/C ,T/IF ,OSD ,PLL	
8	12.3V	VHS Y/C ,T/IF ,AUDIO	
7	33VA	TUNER	
6	5.3VA	VPS ,SYNC DET ,MOD	
5	12VA	VHS Y/C & I/O	
4	D GND		
3	12VA	VHS MOTOR	
2	14.7VA	CAPSTAN(Z-SERCH)	
1	MOTOR GND		

TO 8mm BD

P1105	P1106	
1	12VA	1
2	5.3VA	2
3	6VA	3
4	12VA	4
5	UNREG 11VA	5
6	VPS 'L'	6
7	DIGITAL GND	7
8	MOTOR GND	8
9	UN 11VA GND	9
10	UN24VA GND	10
11	14.7VA	11
12	5.3VA GND	12
13	5.3VA	13
14	UNREG 24VA	14
15	6VA	15
16	PWR CTL	16

D103 1N4003

	P1502	
1	A GND	
2	5.3VA	8mm Y/C ,AUDIO ,ATF
3	PG.FG GND	
4	6VA	8mm u-COM ,8mm SERVO
5	D GND	
6	PWR CTL	
7	C.M GND	
8	D.M GND	
9	UNREG 11VA	8mm MOTOR

R115 2.2K
R116 47K
D107 1N4003
Q104 A2203
D106 1N4003

	P1103	
1	GND	
2	GND	
3	AC 9.6VA	
4	AC 9.6VA	
5	UNREG 11V	
6	UNREG 11V	
7	GND	
8	-GND	
9	AC 15.7VA	
10	AC 15.7VA	
11	UNREG 24V	
12	UNREG 24V	

	P1104	
GND	1
GND	2
AC 9.6VA	3
AC 9.6VA	4
UNREG 11V	5
UNREG 11V	6
GND	7
GND	8
AC 15.7VA	9
AC 15.7VA	10
UNREG 24V	11
UNREG 24V	12

C123 0.047
C124 0.047
C127 0.047
C128 0.047
D105 RBA-402
D108 RBA-402
C125 0.047
C126 0.047
C129 0.047
C130 0.047

F103 2.5A/250V
F102 2.5A/250V

AN7812
IC103
C119 47/50
C120 47/16
AN7812
IC104
C131 47/50
C132 47/16
C121 47/50
C122 47/16
AN7806
IC102

94. 1. 13. 7-515A

F101 Open
No Power.

F102 Open.
No 14.7VA, 12VA, 12.3V.

F103 Open.
No 6VA & 5.5V.

Q104 is defective.
Power ON/OFF is failed.

3-25   3-26

A   B   C   D   E   F   G   H

* Servo Oscilloscope Waveform

① IC201 Pin① TRK TRIGGER

② IC201 Pin⑥ PG M.M

③ IC201 Pin⑦ DRUM P.G

④ IC201 Pin⑨ DRUM F.G

⑤ IC201 Pin㉗ SLOW CONTROL

⑥ IC201 Pin㉙ REC CTL

⑦ IC201 Pin㉚ REC CTL

⑧ IC201 Pin㉟ REC CTL

⑨ IC201 Pin㉗ CAPSTAN F.G

⑩ IC201 Pin㊴ CLOCK CTL

⑪ IC201 Pin㊺ SW25

⑫ IC201 Pin㊽ DV. SYNC

⑬ IC201 Pin㊿ COMPOSITE SYNC

⑭ IC201 Pin㊾ SERIAL DATA

⑮ IC201 Pin㊾ SERIAL CLOCK

⑯ IC201 Pin㊾ CFG C.D

⑰ IC201 Pin㊾ CTL C.D

* Servo IC and TR Voltage Sheet
IC 201(HD49756NT)

IC201 HD49756NT

RECORD MODE	5	2.5	0.7	1.1	3.8	5	0.9	0	0	2.5	0	2.5	2.6	2.6	2.6	0	5	3.6	5	2.4	2.5	2.5	2.5	2.5	2.5	0	2.7	2.1
PLAYBACK MODE	2	2.5	0.7	1.1	3.8	5	0.2	0	0	2.5	2.5	2.5	2.6	2.6	2.6	0	5	2	5	2.4	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5

PLAYBACK MODE	3.6	0	0	5	0	0.2	2.1	0	2.7	2.7	2.7	1.4	2.5	2.5	2.5	2.5	2.4	0	2.5	2.5	2.5	2.5	2.5	2.7	2.7	5
RECORD MODE	3.6	0	0	5	0	0.2	2.1	0	2.7	2.7	2.7	1.4	2.5	2.5	2.5	2.5	2.4	0	2.5	2.5	2.5	2.5	2.6	2.7	5	

*SERVO TR Voltage Sheet

(PB/REC Mode)

PORT TR. NO	EMITTER	COLLECTOR	BASE
Q201	5/5	2.2/2.2	5/5
Q202	0/0	2.2/2.2	0/0
Q203	5/5	1.2/1.2	5/5
Q205	5/5	1.2/1.2	5/5
Q207	0/0	5/5	0/0
Q211	0/0	0/0	0/0

1-2. Main System (Servo, Syscon) Circuit Diagram

94. 2. 1. 7-516P

1-3. Timer/Key Function Circuit Diagram

KEY BOARD(L) (8mm)

R621 390
Q602 C-103
LED621 POWER LED

P6506	
4	LED CTL
3	5VA
2	GND
1	KEY

	EDIT/STOP	SW630
R630 330	EDIT	SW629
R629 390	FF	SW628
R628 470	TO	SW627
R627 680	FROM	SW626
R626 1K	PLAY	SW625
R625 1.5K	PROGRAM	SW624
R624 2.2K	REW	SW623
R623 3.3K	INSERT	SW622
R622 5.6K	STILL	SW621
R620 6.8K	SECAM	OPTION SW620

DG601

EDIT VCR ST H 8 SEP SEP

IC602
uPD16311

C611 0.1
C610 0.1
C612 0.1
C614 0.1
L602 100u
R612 33K
C615 18P
C605 0.1
C602 0.1
C603 0.1
C609 0.1
C613 0.1
L601 100u

R615 4.7K
R616 4.7K
R617 4.7K

P6503		
GND	1	
Vcc	2	
DATA	3	
CLK	4	
STB	5	
V.LED CNT H	6	
−28V	7	
AC 4.2V	8	
AC 4.2V	9	

R613 39   C606 0.1
R614 39   C604 0.1

IC602 pins:
39 GK, 38 G7, 37 G6, 36 G5, 35 G4, 34 VEE, 33 VDD, 32 G3, 31 G2, 30 G1, 29 P1, 28 P2, 27 P3
40 G9, 41 G10, 42 G11, 43 G12, 44 G13, 45 VDD, 46 LD5, 47 LD4, 48 LD3, 49 LD2, 50 LD1, 51 VSS, 52 OSC
P4 26, P5 25, P6 24, P7 23, P8 22, P10 21, P10 20, P11 19, P12 18, P13 17, P14 16, P15 15, VDD 14
1 SW1, 2 SW2, 3 SW3, 4 SW4, 5 DOUT, 6 DIN, 7 OPEN, 8 CLK, 9 STB, 10 KEY1, 11 KEY2, 12 KEY3, 13 KEY4

1-4. Pre-Amp Circuit Diagram

*Pre-Amp IC Voltage Sheet

LP Mode

												PB(REC)
5.0	0	4.7	0.3	1.3	2.2	4.9	3.1	0	2.8	2.2	2.5	4.1	0	2.7
(5.0)	(3.8)	(4.8)	(0.3)	(1.3)	(2.2)	(4.9)	(4.4)	(0)	(3.1)	(0.1)	(0)	(4.0)	(2.2)	(2.7)

30 .... 25 20

IC901(HA118019)

1 .... 5 .... 10 15

| 4.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 0 | 4.2 | 4.2 | 2.1 | 2.1 | 0 | 2.7 |
| (4.2) | (0) | (0) | (0) | (0) | (0) | (0) | (4.2) | (0) | (2.1) | (2.1) | (2.1) | (3.2) | (2.1) | (4.8) |

SP Mode

												PB(REC)
5.0	0	4.7	0.3	1.3	2.2	0.1	4.4	0	2.8	2.5	0	4.1	0	2.7
(5.0)	(3.8)	(4.8)	(0.3)	(1.3)	(2.2)	(0.1)	(4.4)	(0)	(3.1)	(0.1)	(0)	(4.0)	(2.2)	(2.7)

30 .... 25 20

IC901(HA118019)

1 .... 5 .... 10 15

| 2.3 | 0.7 | 2.1 | 0 | 2.2 | 2.2 | 4.3 | 2.1 | 0 | 0 | 0 | 4.2 | 5.0 |
| (4.3) | (2.2) | (2.2) | (0) | (2.2) | (2.2) | (4.3) | (2.1) | (0) | (0) | (0) | (4.2) | (4.8) |

R903, R904 are defective.

RF level has much value and oscillate in the LP mode.

R901, R902 are defective.

RF level has much value and oscillate in the SP mode.

Q901, Q902, Q903 are defective.

- In the PB mode, RF level is low.
- In the PB mode, the screen has much noise.
- The Playback doesn't operate and has the noise.

Q904, Q905, Q906 are defective.

Not Recorded.

P9301

1	SLOW "L"
2	FE
3	GND
4	C.SYNC
5	M.A.S.
6	S/W 25
7	ROT S/W

P9302

1	5V
2	PB COLOR
3	LP "H"
4	PB Y
5	REC START "H"
6	REC Y/C
7	GND

P9D01

FE	1
FE GND	2
SP A REC	3
SP A PLAY	4
SP B REC	5
SP B PLAY	6
LP B REC	7
LP B PLAY	8
LP A REC	9
LP A PLAY	10

*Pre-Amp TR Voltage Sheet

PB/REC mode

PORT TR. NO.	EMITTER	COLLECTOR	BASE
Q901	3.3/3.3	1.8/1.8	1.6/2.6
Q902	0.8/0.8	0/1.9	1.4/1.4
Q903	1.4/1.3	5.0/5	1.9/1.9
Q904	0.0/0.0	0/2.2	0/0
Q905	0.0/0.0	0.02/0	0/5.0
Q906	0.0/0.0	0/0	0.3/5.0

—— RECORD Y+C SIGNAL —— PLAY BACK Y+C SIGNAL ——— PLAY BACK Y SIGNAL ——— PLAY BACK C SIGNAL

94. 1. 13. 7-517P

3-35   3-36

A   B   C   D   E   F   G   H

• Y/C Waveform (When taking a photograph of waveform, set probe of oscilloscope to 10:1)

① P3P02 Pin ② (TP203)
Playback RF (SP mode)
(20mV/5msec)

② IC301 Pin ⑭
Playback Color
(5mV/10µsec)

③ IC301 Pin ⑱
Playback Mode : Fsc
Oscillation (20mV/100msec)

③ IC301 Pin ⑱
Record Mode : Fsc
Oscillation (20mV/100msec)

④ TP201
S/W 25 (100mV/10msec)

⑤ IC301 Pin ㉖ C.SYNC
(100mV/20µsec)

⑥ IC301 Pin ㉚
B.G.P Out terminal
(100mV/20µsec)

⑦ IC301 Pin ③
Clamp Input terminal
(20mV/20µsec)

⑧ Q314 Emitter
Record Color Signal
(5mV/20µsec)

⑨ IC303 Pin ⑦
Color Burst signal
(10mV/20µsec)

*Y/C TR Voltage Sheet

PORT TR. NO.	EMITTER	COLLECTOR	BASE	REMARK
Q301	0/0	0/0	0/0	SP Mode
	0/0	0/0	4.7/4.8	LP Mode
Q302	1.5/1.6	5.1/5.0	2/2.1	
Q303	0/0	0/0	0/0	
Q304	3.6/3.0	0/0	3/2.4	
Q305	4.2/3.7	0/0	3.6/3.0	
Q306	0/0	0/0.5	5/0.2	
Q307	0/0	4.6/4.6	0.6/0.5	
Q308	1.2/0	5/0.2	1.8/0.1	
Q309	2.8/0	5/0.2	3.4/0.1	
Q310	0.9/0	1.5/0.2	1.5/0.1	
Q311	1/0	5/0.2	1.5/0.2	
Q312	0/0	0/5	5/0	
Q313	5.1/5.1	5/0.2	4.3/5.1	
Q314	1/0.6	0/0	0.4/0	
Q315	2/0.2	0/0	0/0	
Q316	2.8/0	0/0.2	3.4/0	
Q321	11.6/11.6	0/0	11.6/11.6	
Q322	0/0	11.6/11.6	0/0	
Q323	0.5/0.1	11.6/11.6	0/0	
Q324	0/0	0/0	0/0	
Q325	0/0.16	0/0	0/0	

*Y/C IC Voltage Sheet

PAL Mode — PB(REC)

0 (0)	4.0 (1.0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0.1)	5.4 (5.4)
				10					

IC303(BA7025L)

1 ... 5 ... 15

3.8 (3.8)	0 (0)	5.4 (5.4)	4.7 (0)	3.1 (3.1)	3.9 (3.9)	4.0 (4)	0 (0)	5.4 (5.4)

MESECAM Mode — PB(REC)

0 (0)	4.0 (4.0)	0 (0)	0 (0)	0 (0)	4.4 (4.3)	4.3 (4.3)	4.5 (4.5)	5.4 (5.4)
				10				

IC303(BA7025L)

1 ... 5 ... 15

3.8 (3.8)	0 (0)	5 (5)	4.8 (4.8)	3.2 (3.2)	5 (5)	3.8 (3.8)	0 (0)	5.4 (5.4)

PB(REC)

8 (0.2)	2 (0.1)	2 (0.2)	2 (0.3)

IC304
(MSM7403RS) 5

1

4.85 (0.2)	0 (0)	4.85 (0.2)	3.3 (0.1)

PAL Mode — PB(REC)

2.5 (2.5)	0.6 (0.6)	3.7 (3.2)	3.3 (3.3)	1.4 (1.4)	3.3 (3.3)	0.6 (0.6)	5.0 (5.0)	2.0 (2.0)	0.1 (0.1)	0.5 (0.5)	4.1 (4.1)	5.0 (5.0)	2.0 (2.0)	2.0 (2.0)	2.5 (2.4)	3.3 (3.3)	3.3 (3.3)
	35				30				25			4.6 (4)	MESECAM Mode	20			

IC301(LA7390)

1 ... 5 ... 10 ... 15

2.3 (0)	3.1 (2.4)	2.4 (2.8)	4.5 (2.8)	4.5 (2.8)	4.3 (4.3)	2.5 (2.4)	3.2 (2.2)	2.1 (2.1)	0 (0)	2.0 (2.1)	2.5 (0.5)	1.5 (1.7)	3.0 (3.0)	2.3 (2.5)	2.2 (2.2)	3.8 (3.8)	2.6 (3.4)

1-5. Y/C Circuit Diagram

94. 1. 13. 7-518P

REC Y SIGNAL ———— PB Y SIGNAL
REC C SIGNAL ———— PB C SIGNAL
◯ ⟿→ WAVEFORM

3-39   3-40
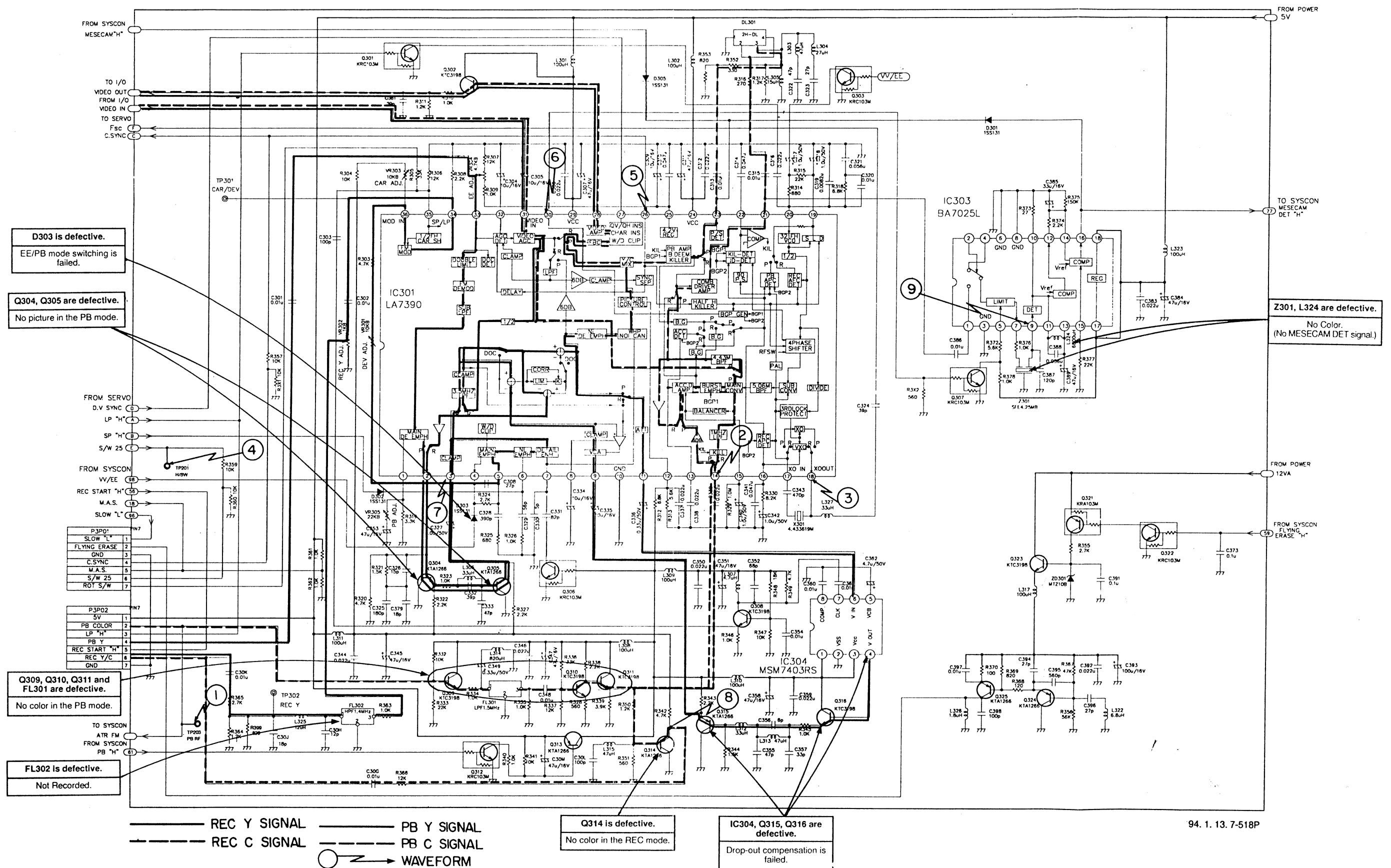
1-6. Tuner/IF & Audio Circuit Diagram

Callout boxes on diagram:

- **IF 12VA doesn't Input.** Tuning is failed.
- **If 5.3VA doesn't Input.** RF, Line (Modulator) Video signal doesn't appear.
- **T701 is defective.** No Video signal.
- **VR401 Mis-adjustment.** Audio distortion will be occurred.
- **Q407, Q409 Short.** Audio signal will not be recorded.
- **Q404, Q405 Short.** The defect in the Full Erase. (REC mode.)
- **Q708, Q709 are defective.** No modulator RF out.
- **VR701 Mis-adjustment.** Weakness occur on the screen. (Tuner EE. mode.)
- **Q707, ZD401 Short.** No Audio signal or Tuner Audio overamplify.
- **Q706 is defective.** No Video out.
- **Q406 Short.** The defect in the Full Erase. (REC mode.)
- **Z705 is defective.** Audio distortion is increased.
- **IC402 is defective.** No Audio signal in the EE./PB/REC mode.
- **IC403 is defective.** No MIC mix.

IC701 TDA9802
IC402 LA7016
IC403 LA7222
TU701 TUNER
MD701 MODULATOR
BA7790LS

Legend:
- ———— AUDIO PB SIGNAL
- – – – – AUDIO REC SIGNAL
- ———— TUNER VIDEO SIGNAL
- – – – – TUNER AUDIO SIGNAL
- – – – – IF SIGNAL

※①②③④ : FTZ Optional Part, ⑤ : TV/VCR Optional Part

94. 2. 1. 7-519P

3-41   3-42

*Tuner/IF TR Voltage Sheet

PORT TR NO	EMITTER	COLLECTOR	BASE
Q701	1.17	12.2	1.78
Q702	1.62	12.2	2.23
Q708	5.25	5.13	4.50
Q709	0	0	5.07

*Tuner/IF IC Voltage Sheet

IC701(TDA9802)

20					15				
5.11	3.01	0.0	2.79	2.79	4.89	1.97	1.99	4.10	2.59
3.32	3.32	1.07	0.21	3.08	2.50	2.24	3.23	1.96	1.50
1				5					10

*Tuner

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0.11	0.14	0	0.06	5.26	30.6	0	12.2	0	0	4.7	11.9	18.6	0

*Audio TR Voltage Sheet

PB/REC Mode

PORT TR NO	EMITTER	COLLECTOR	BASE
Q401	0.0/7.5	0.0/0.0	7.0/6.9
Q402	11.6/11.5	7.4/7.3	10.9/10.8
Q403	4.7/4.7	4.8/0.4	4.6/4.6
Q404	0.0/0.4	8.9/8.8	0.0/0.8
Q405	0.0/0.0	0.0/0.8	7.3/0.0
Q406	0.0/0.0	7.3/0.0	0.0/4.6
Q407	0.0/0.0	0.0/0.9	7.4/0.0
Q408	0.0/0.0	7.4/0.0	0.0/4.9
Q409	0.0/0.5	9.0/8.8	0.0/0.9
Q410	9.0/8.9	11.6/11.5	9.5/9.5
Q411	4.0/4.0	11.0/10.8	4.6/4.5
Q420	0.0/0.0	0.0/7.5	4.9/0.0

*Audio IC Voltage Sheet

IC401(BA7790LS)   PB(REC)

10									20		
3.4 (3.4)	0.0 (0.0)	3.4 (3.4)	3.5 (3.5)	3.5 (3.5)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	1.1 (4.7)
0.0 (0.0)	0.0 (0.0)	8.8 (8.8)	8.9 (8.9)	0.0 (0.0)	4.9 (0.4)	2.6 (2.6)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	4.1 (4.1)	0.0 (0.0)
1			5					15			

IC402(LA7016)   PB(REC)

1				5			8
11.6 (11.5)	7.6 (7.5)	0.3 (0.3)	6.9 (6.8)	0.0 (0.0)	0.0 (0.0)	7.6 (7.5)	0.0 (0.0)

IC403(LA7222)   PB(REC)

1				5					10		
0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	7.7 (7.6)	0.0 (0.0)	7.7 (7.6)	7.0 (6.9)	11.6 (11.5)	7.7 (7.6)	7.0 (6.9)	7.7 (7.6)

In/Out IC Voltage Sheet

IC801(LA7954)

1	2	3	4	5	6	7	8	9	
4.3	0	0	4.9	0	4.9	11.7	4.9	5	TU
4.3	5	0	4.9	0	4.9	11.7	4.9	5	S1
4.3	0	5	4.9	0	4.9	11.7	4.9	5	S2
4.3	5	5	4.9	0	4.9	11.7	4.9	5	A/V

IC803(LA7954)

1	2	3	4	5	6	7	8	9	
4.2	0	0	4.9	0	4.9	11.7	4.9	5	TU
4.2	5	0	4.9	0	4.9	11.7	4.9	5	S1
4.2	0	5	4.9	0	4.9	11.7	4.9	5	S2
4.2	5	5	4.9	0	4.9	11.7	4.9	5	A/V

IC802(LA7222) TU

1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	7.7	0	7.7	7	11.7	7.7	7	7.7

IC804(LA7222) TU

1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	7.7	0	7.7	7	11.7	7.7	7	7.7

IC805(NJM2245S) TU

1	2	3	4	5	6	7	8	9
8	11.7	0	6.1	0	7.9	0	8	0

IC806(NJM2249L) TITLE OFF (ON)

1	2	3	4	5	6	7	8
2.9 (2.9)	0 (1.5)	2.8 (2.8)	0 (1.1)	3.2 (3.2)	6.4 (6.4)	2.1 (2.1)	0 (0)

IC808(NJM2249S) TU

16	15	14	13	12	11	10	9
0.3	4.8	0	4.1	1.8	0.6	0.1	0.2

1	2	3	4	5	6	7	8
2.5	2	2.1	0	0.5	3.7	2.9	0

1-7. Scart In/Out & Function OSD Circuit Diagram

Q810, Q811 are defective.
F-OSD not operate.

X801 is defective.
F-OSD not operate.

IC807 is defective.
VPS not operate.

IC806 is defective.
Title defect.

IC805 is defective.
8mm Video is not switching.

IC804 is defective.
No Video signal in the EE mode.

IC803 is defective.
TU/AV/S1/S2 Video are not switching.

IC802 is defective.
No Audio signal in the EE mode.

IC801 is defective.
TU/AV/S1/S2 Audio are not switching.

Q8A6 is defective.
No Video out.

Q8A3 is defective.
Secam F-OSD spread.

Q8A7 is defective.
No Video out.

Q8A5 is defective.
F-OSD character is unstable.

TUNER AUDIO
LINE AUDIO
A/V AUDIO
MOD AUDIO
MAIN AUDIO
OSD VIDEO
8mm VIDEO

TUNER VIDEO
LINE VIDEO
A/V VIDEO
MOD VIDEO
Y/C VIDEO

※ ① : In VHS Main Board

94. 2. 7-521P

1-8. Connection Diagram

POWER

HEAD — AUDIO HEAD / F/E HEAD / CTL HEAD

LOADING.M

HOUSING

CAPSTAN.M

DRUM.M

DECK ASSY

I/O BOARD

VHS MAIN

VHS PREAMP

8MM PRE-AMP

8MM MAIN

TIMER BOARD

8MM DRUM

8MM DECK

KEY BOARD

93. 11. 30.   519A

5   4   3   2   1

A   B   C   D   E   F   G   H

2. 8mm Circuit Diagrams

2-1. Main System (Servo, Syscon) Circuit Diagram

DRUM SPEED SERVO ——————— CAPSTAN SPEED SERVO ——————— ⊙→ WAVEFORM

DRUM PHASE SERVO —·—·—·— CAPSTAN PHASE SERVO ————————
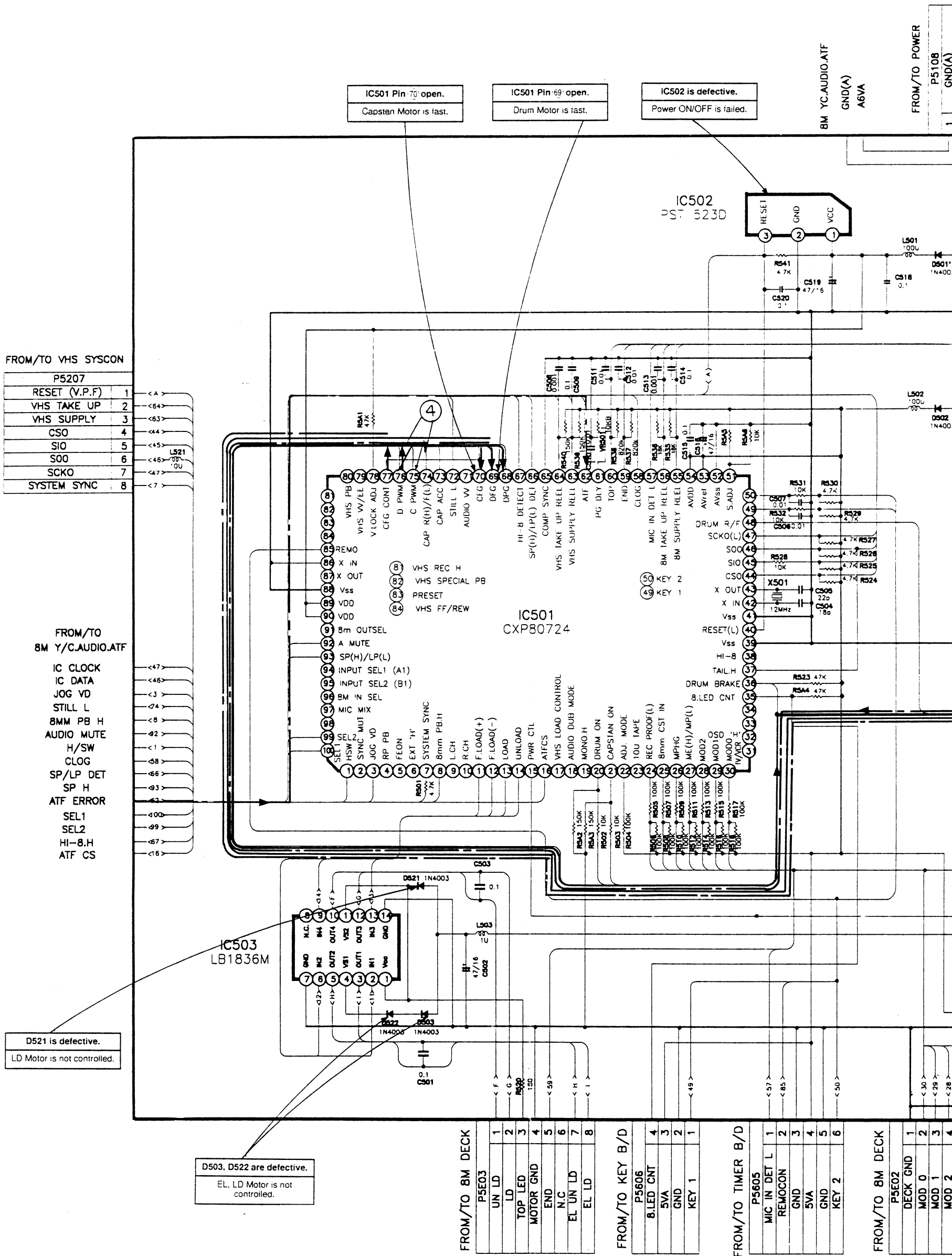
8mm Main System Waveform
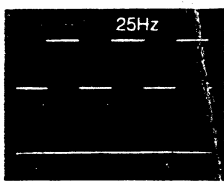
① 25Hz — (UP) HSW / (DOWN) DPG IC506 ⑨

② 460Hz — DFG IC506 ⑩
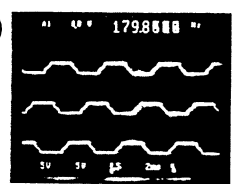
③ 1.53kHz — CFG IC506 ⑫
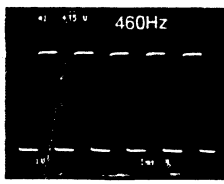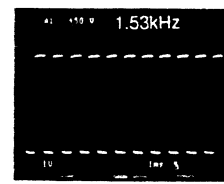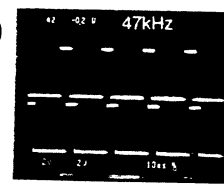
④ 47kHz — (UP) D PWM IC501 ⑦⑥ / (DOWN) C PWM IC501 ⑦⑤

⑤ 1798Hz — (UP) Drum U IC507 ⑲ / (MIDDLE) Drum V IC507 ⑰ / (DOWN) Drum W IC507 ⑮

FROM/TO POWER — P510B
Pin	Signal
1	GND(A)
2	A6VA
3	PG.FG GND
4	D6VA
5	D.GND
6	PWR CTL L
7	C.M.GND
8	D.M.GND
9	UNREG 11V

FROM/TO 8MM D.MOTOR — P5E04
8	DRUM V
7	DRUM W
6	DRUM U
5	COM UVW
4	SEA GND
3	FG +
2	PG +
1	COM PG FG

FROM/TO 8MM DECK — P5E01
1	HU −
2	HE VH +
3	HE VH −
4	HV +
5	HW −
6	FG +
7	MR-VCC
8	FG −
9	MR-GND
10	HV −
11	HW +
12	CAP L
13	HU +
14	CAP V
15	CAP U

IC506 CXA1512M — dfg,cfg, pg AMP

IC507 GL7406 — D M drive

IC505 CXA1127M

IC504 GL358

Q509, Q510 are defective. / Drum Motor is fast or slow.

C552, C553 are defective. / Color bend appears on the screen.

Q503 is defective. / Tape is not loaded.

Q505, Q506 are defective. / Capstan Motor is fast or slow.

P5E02
1	DECK GND
2	MOD 0
3	MOD 1
4	MOD 2
5	TOP C
6	CST IN
7	HP HG
8	ME MP
9	DECK GND
10	TAKE UP A
11	TAKE UP C
12	REC PROOF
13	SUPPLY A
14	SUPPLY C

93. 11. 30. 7-524A

*8mm Main System IC Voltage Sheet

IC504 (GL358)
6	1.8	0.8	0.8
0.8	0.8	0.8	0.8

IC505 (CXA1127M)
0	0	1.2	1.2	1.2	1.2	1.2	1.2	2.2	0	0	1.3	0	0
1.2	1.2	1.2	1.2	1.6	1.6	1.6	0	1.6	6	6	6	0	0

IC506 (CXA1512M)
2.2	2.2	5	5.3	5	5	2
2	2	2	2	2.2	0	2

IC507 (GL7406)
6	1.2	1.2	1.2	1.2	1.2	1.2	2.2	2.2	2.2	0	2.2	0	2.2
0.1	0	0	0	0	0	3.5	5.5	5.5	0	0	0	2.2	2.2

2-2. Main Analog (Y/C, Audio) Circuit Diagram

FL3A2 is defective.
No color signal.

Q3A1, Q3A3 are defective.
No Picture.

Soldering of IC3A5 Pin ㉗, ㉘ is defective.
No Picture.

Q4A1, Q4A2 are defective.
No Audio signal.

TO PRE-AMP
P3001

G N D	1
PB C OUT	2
G N D	3
AFM OUT	4
G N D	5
PB RF	6
G N D	7
HI-EQ OUT	8
5.3VA	9
TRICK 'L'	10
SW 25	11
C-SYNC	12
STILL 'L'	11
HI-8 'H'	12

IC3A1
HA118172

IC4A1
LA7454W

Hi-8 'H'

PB 5.3V

PB 5.3V

——————— Hi-8 FM

— — — — — Normal FM

– · – · – · – PB Y

— — — — PB C

——————— PB AUDIO

——————— VIDEO OUT

– – – – – – CAPSTAN PHASE SIGNAL

3-52

3-53

8 7 6 5 4 3 2 1

A   B   C   D   E

2-3. Pre-Amp Circuit Diagram

Q010, Q011 are defective.
Color signal doesn't appear.

	P0302	
1	GND	1
2	PB C OUT	2
3	GND	3
4	AFM OUT	4
5	GND	5
6	PB RF	6
7	GND	7
8	HI-EQ OUT	8
9	5.3VA	9
10	N.C	10
11	SW 25	11
12	C-SYNC	12
13	STILL 'L'	13
14	HI-8 'H'	14

	P0D01	
1	GND	1
2	CH 1	2
3	GND	3
4	GND	4
5	CH 2	5
6	GND	6
7	GND	7
8	CH 3	8
9	GND	9
10	GND	10

IC001
HA118019NT

Q001, Q003, Q009 are defective.
No picture.

NORMAL PB Y
PB C
ATF & AUDIO FM

94. 1. 13. 7-523P

A	B	C	D	E	F	G	H

3-55   3-56

PRINTED CIRCUIT BOARD DIAGRAMS

1. VHS Printed Circuit Board

1-1. Main P.C.Board

(SOLDER SIDE)

1-2. Power 1 P.C.Board

504-868A

TRANSFORMER

F103 T2.5A/250V
AC 4.2V 0.2A
AC33V 0.1A
AC9.6V 2.4A
AC15.7V 2.4A
AC230V
AC240V
F102 T2.5A/250V
F101 T500mA/250V
FL101
BL
BR

V02,V04 CUTOFF
PWRCTL

(SOLDER SIDE)

1-3. Power 2 P.C.Board

504-869A

PWRCTL

(SOLDER SIDE)

1-4. Power 3 P.C.Board

504-870A

(SOLDER SIDE)

1-5. Timer (I) P.C.Board

504-912S-1

MIC DET L
AUDIO GND
AUDIO IN
VIDEO GND
VIDEO IN
12V VDD
MIC IN
GND
MIC MIX

SW605 PLAY
SW604 REW
SW608 STILL
SW607 REC
SW606 FF
SW603 EJ/STOP
SW602
SW601
R/C501
AFT REC
R.OUT
VCC
MIC DET L
Y/C IN
GND
5V REM
GND
KEY 2

VIDEO IN
YELLOW
WHITE
AUDIO IN
MIC IN

JK601
JK602
JK603

IC601

IC602
μPD16311

(SOLDER SIDE)

1-6. Pre-Amp P.C.Board

504-865A
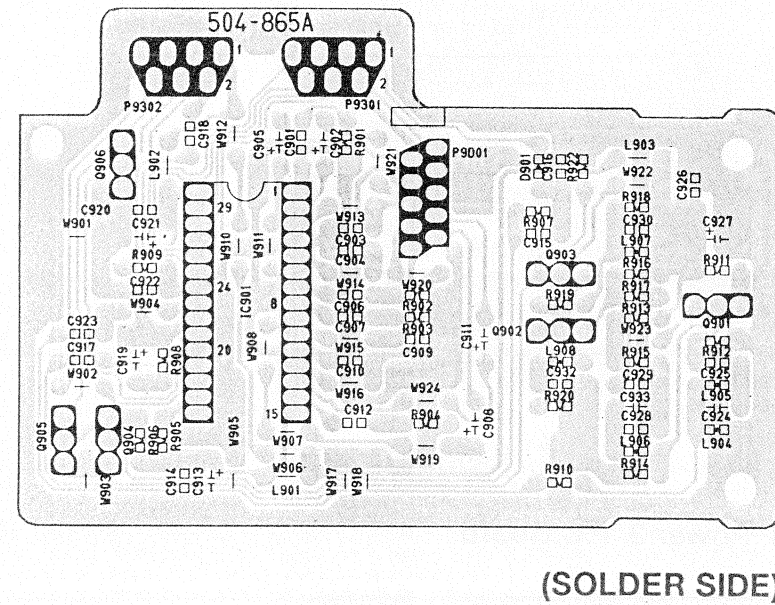
(SOLDER SIDE)

1-8. Scart In/Out P.C.Board
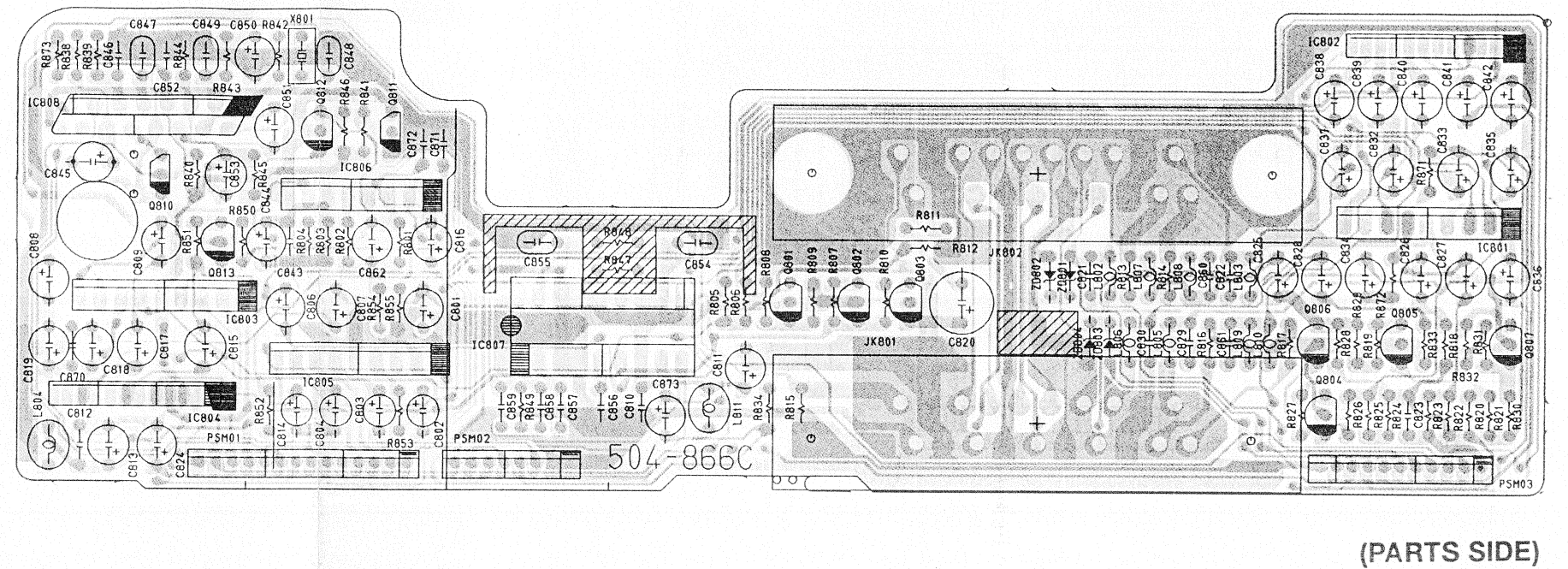
504-866C

(PARTS SIDE)

1-7. Deck Junction P.C.Board

504-700B

(SOLDER SIDE)

504-866C

(SOLDER SIDE)

2. 8mm Printed Circuit Board

2-1. Main P.C.Board

(PARTS SIDE)

2-2. Timer (II) P.C.Board

(SOLDER SIDE)

Main P.C.Board

504-867C

2-3. Pre-Amp P.C.Board

504-911A1
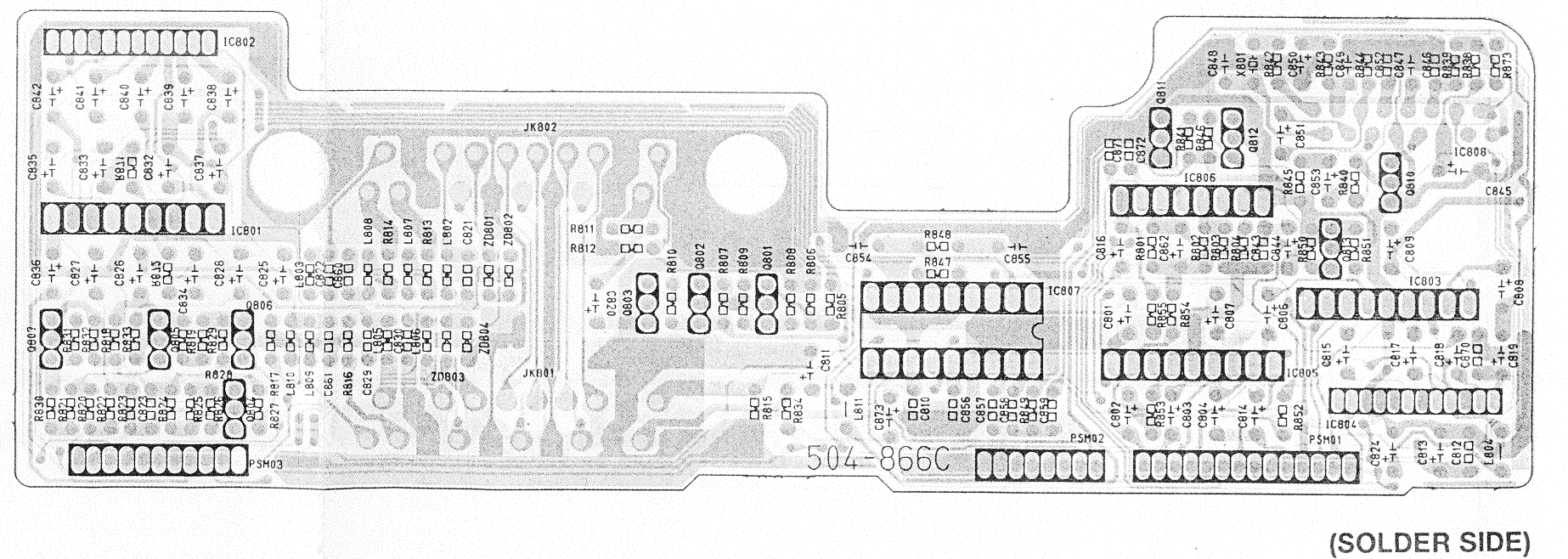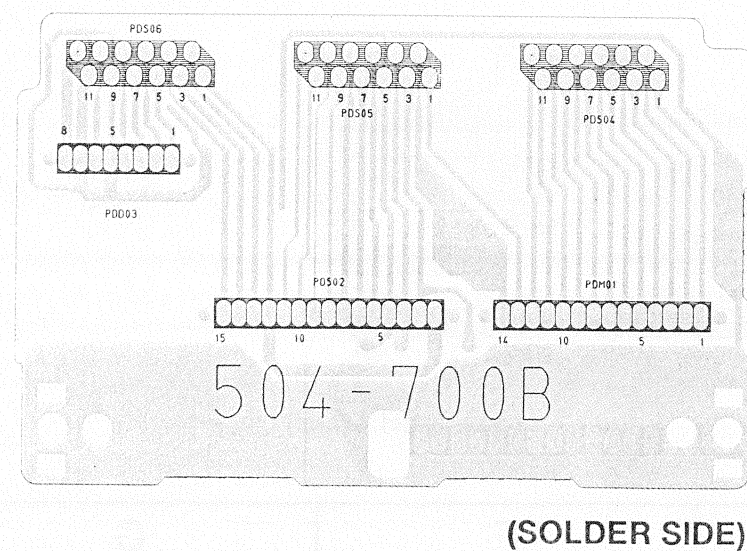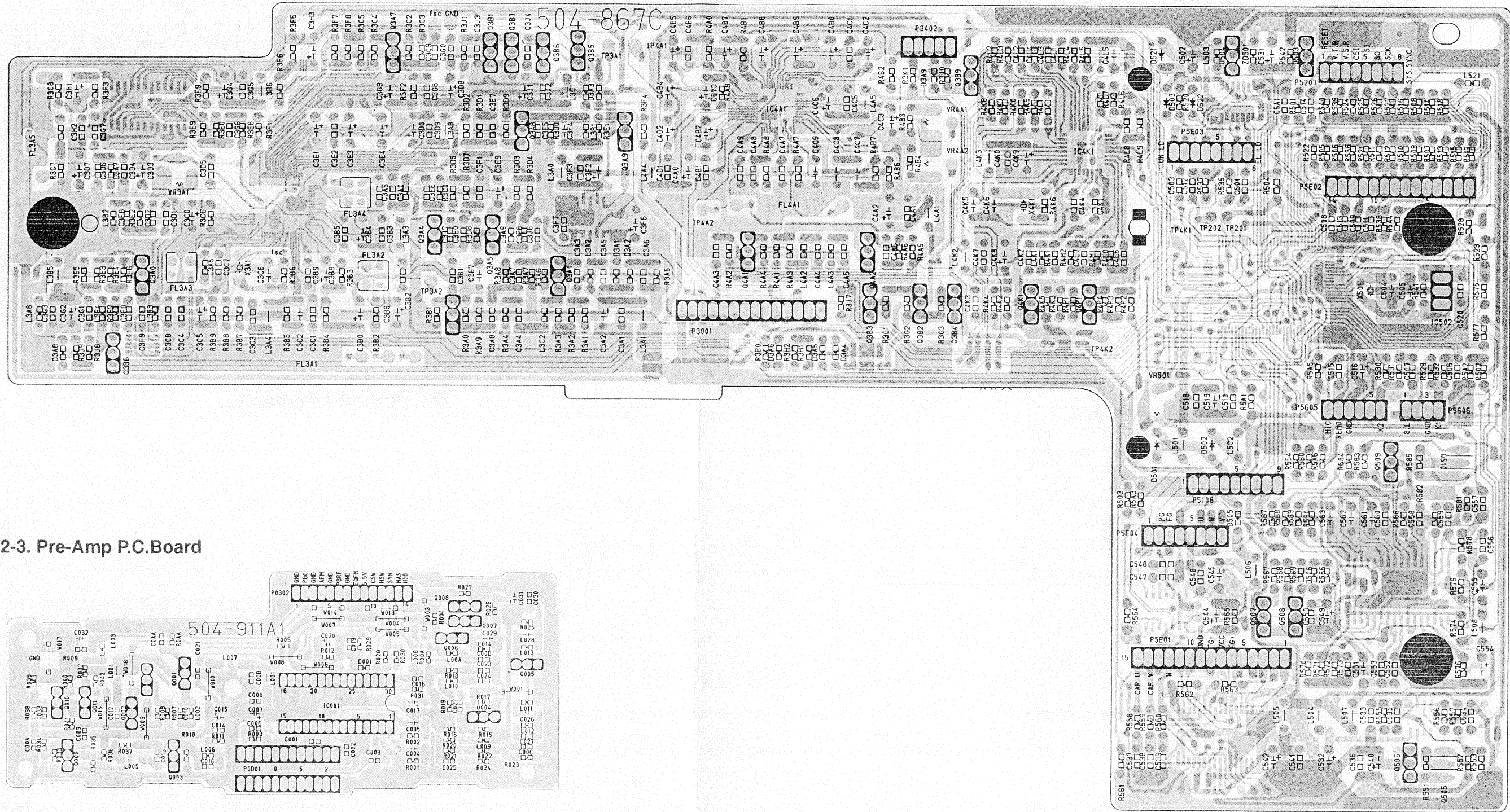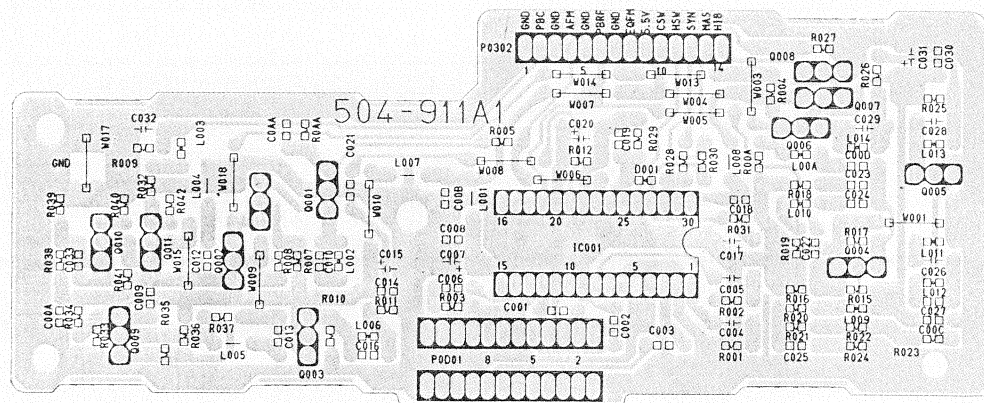
(SOLDER SIDE)

(SOLDER SIDE)

A   B   C   D   E   F   G   H

2-4. Deck Junction P.C.Board

(SOLDER SIDE)

504-680A

93.5.11
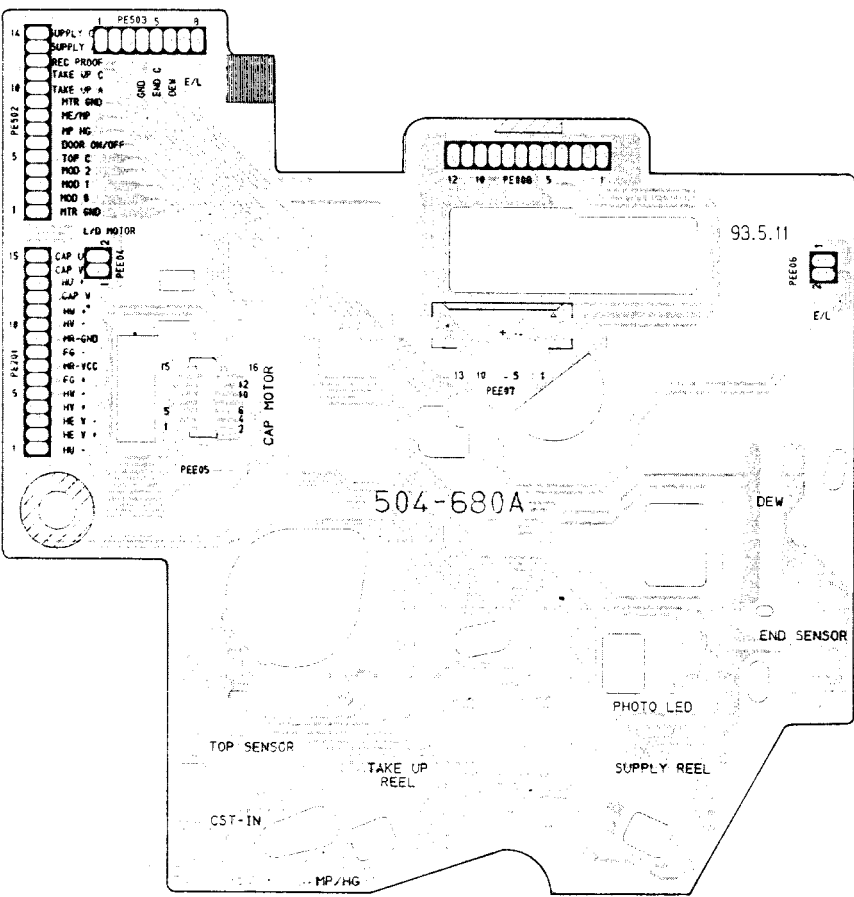
SECTION 4
MECHANISM

GoldStar

VHS SERVICE MANUAL
PAL SECAM

CONTENTS

GoldStar

SECTION 4-1. VHS DECK MECHANISM
FRONT LOADING MECHANISM DISASSEMBLY

• **Front Loading Mechanism Parts Location**

BRACKET(L)   TOP PLATE   BRACKET(R)

PLATE T-GND

P.C.B(R)

CARRIER BRACKET ASSEMBLY

CASSETTE GUIDE

DOOR OPENER

SIDE BRACKET ASSEMBLY

DRIVE GEAR ASSEMBLY

Front Loading Mechanism Parts Location
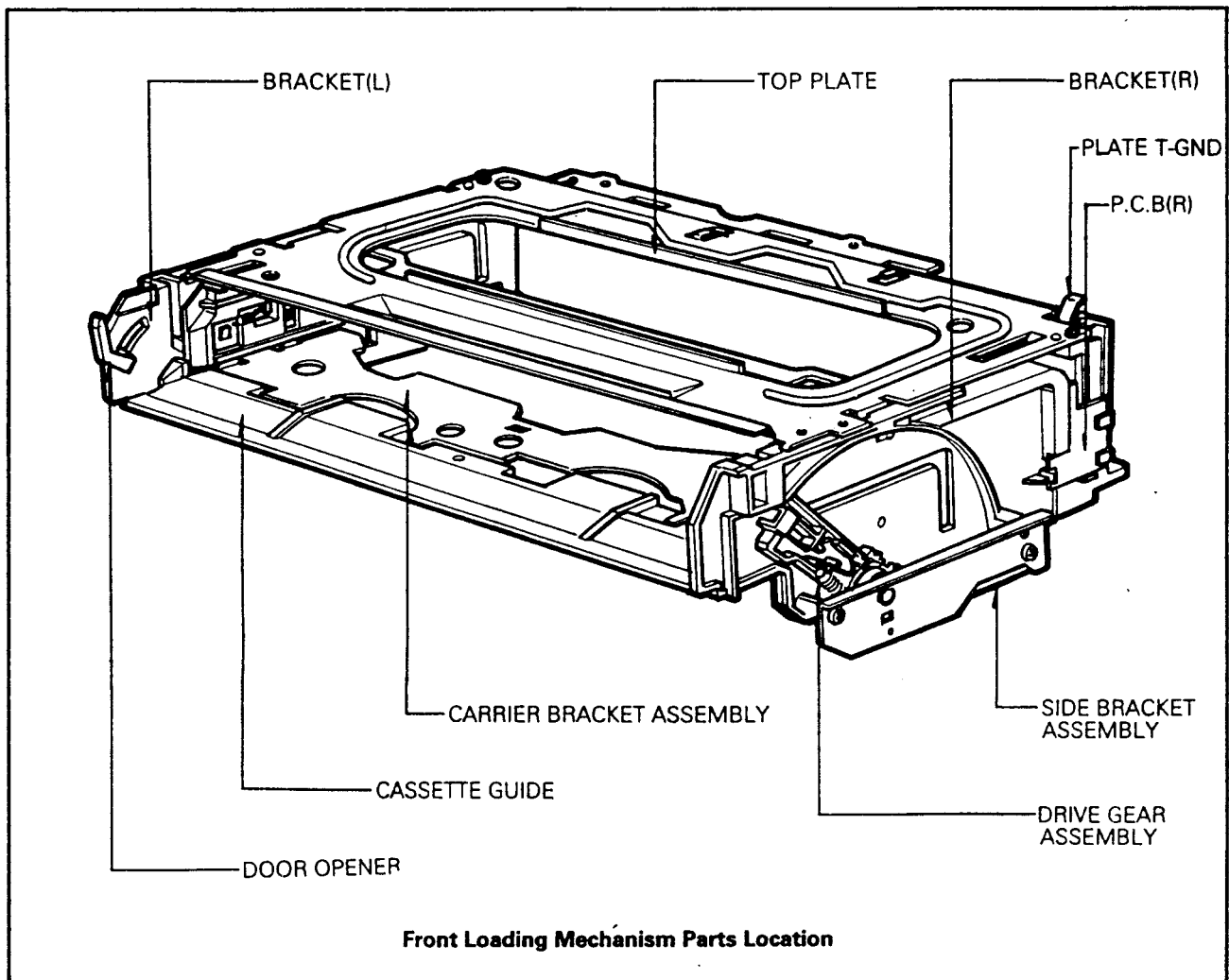
1. Component list below will be discribed as if the top and bottom covers and the front panel have already been removed.
2. P.C.B Assembly
3. Top Plate
4. Carrier Bracket Assembly
5. Cassette Guide
6. Side Bracket Assembly
7. Bracket(L), (R)
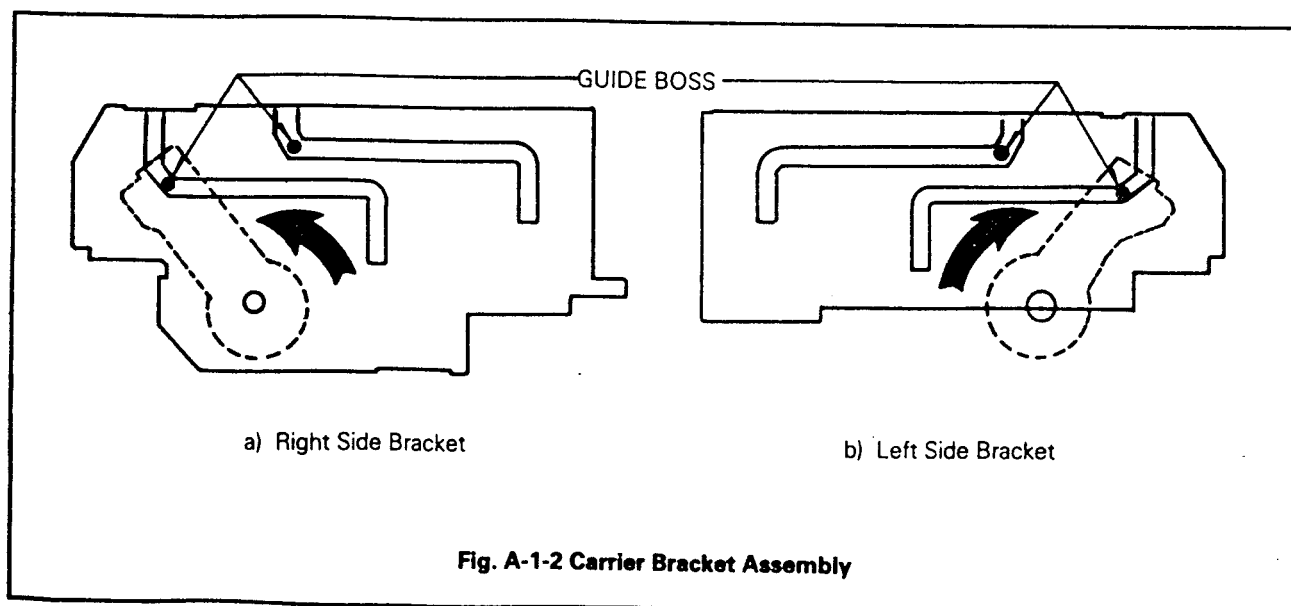8. Door Opener
9. Drive Gear Assembly

1. Front Loading Mechanism Assembly
(Fig. A-1-1)

1) Remove the Top and Bottom Covers and the Front panel.
2) Unplug the connector.
3) Remove two screws(A).
4) Lift up the Front Loading Mechanism in the direction of arrow(C).

• NOTE

1) When disassembling and reassembling
① Give special attention to removal. because two tabs(D) are engaged.

② Make sure that Bosses of Bracket(L),(R) are properly engaged in the holes of the chassis.
③ To reassemble Front Loading Mechanism, the Drive Gear Assembly should be turned in a counterclockwise as shown in Fig. A-1-2 so that the Rack Gear N.D of Front Loading Mechanism Assembly is meshed into Rack Gear F.L of Deck Mechanism Assembly correctly as shown in Fig. A-1-1.(B).

Fig. A-1-1 Front Loading Mechanism

a) Right Side Bracket

b) Left Side Bracket

Fig. A-1-2 Carrier Bracket Assembly
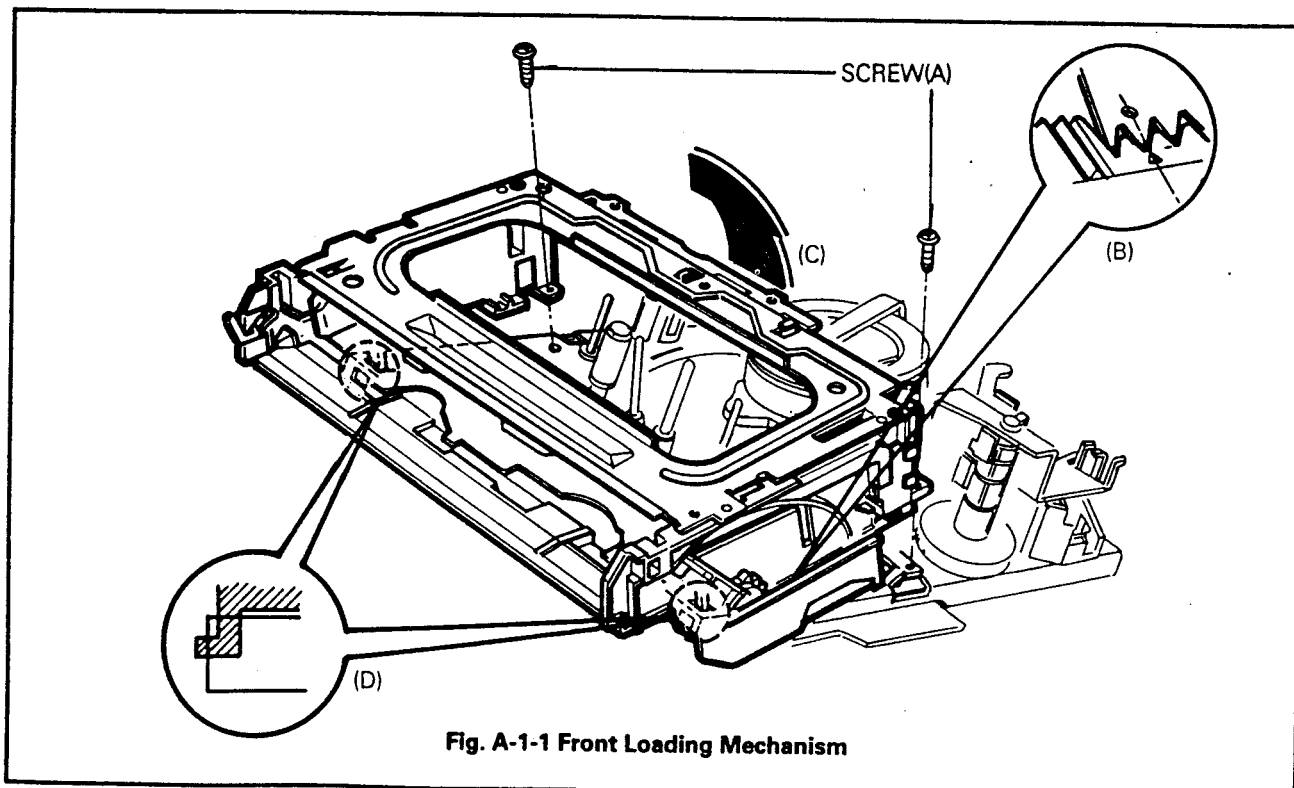
2. PCB(Printed Circuit Board) Assembly

2-1. P.C.B Assembly(R)(Fig. A-2)

1) Remove the PCB Assembly(R) by pushing three Hooks (A) outward.
2) Release the Lead wire from stoppers.

2-2. PCB Assembly(L).(Fig. A-2)

1) Remove the PCB Assembly(L) by pushing the Hook(B) outward.
2) Release the Lead Wire from stoppers.

HOOKS(A)   HOOK(B)   STOPPER

Fig. A-2 PCB Assembly
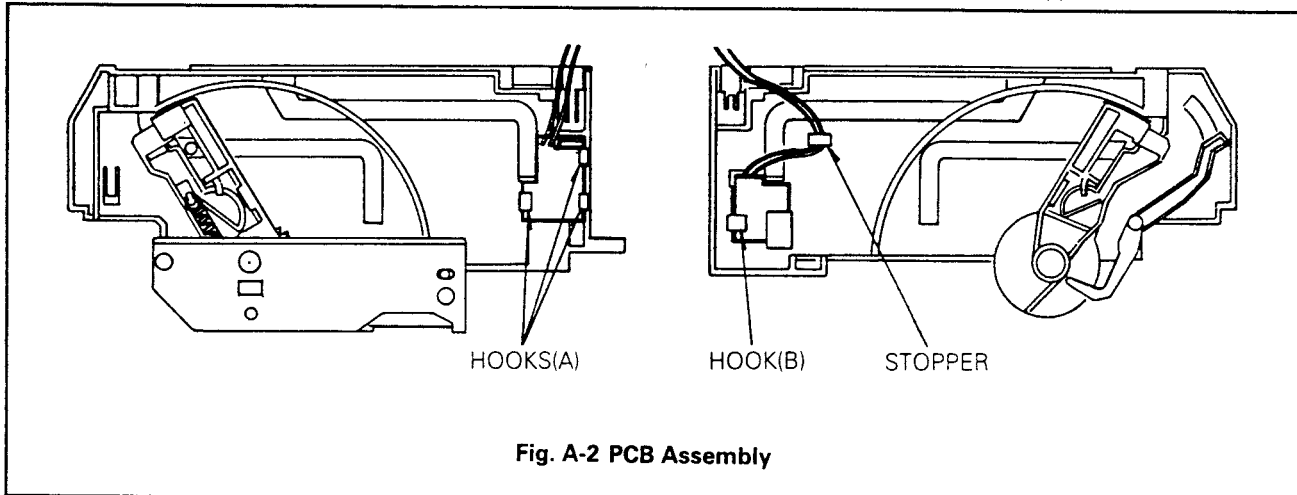
3. Top Plate(Fig. A-3)

1) Remove two screws(A).
2) Push the upper part of Top plate Ground and then lift up the Top Plate.

* NOTE

1) When reassembling, be certain that the tabs(C) of Top Plate is in both Bracket(L),(R).
① Then align the guide holes(D) of Top Plate with Bosses of side Bracket(L),(R).

(C)   SCREW(A)

GUIDE HOLE(D)

Fig. A-3 Top Plate

4. Carrier Bracket Assembly

4-1. Carrier Bracket Assembly(Fig. A-4-1)

1) Remove the Carrier Bracket Assembly by moving it in the direction of arrow(C).

* NOTE

1) When reassembling, be sure that parts(A) of Carrier Bracket Assembly are seated in parts(B) of Bracket(L),(R).

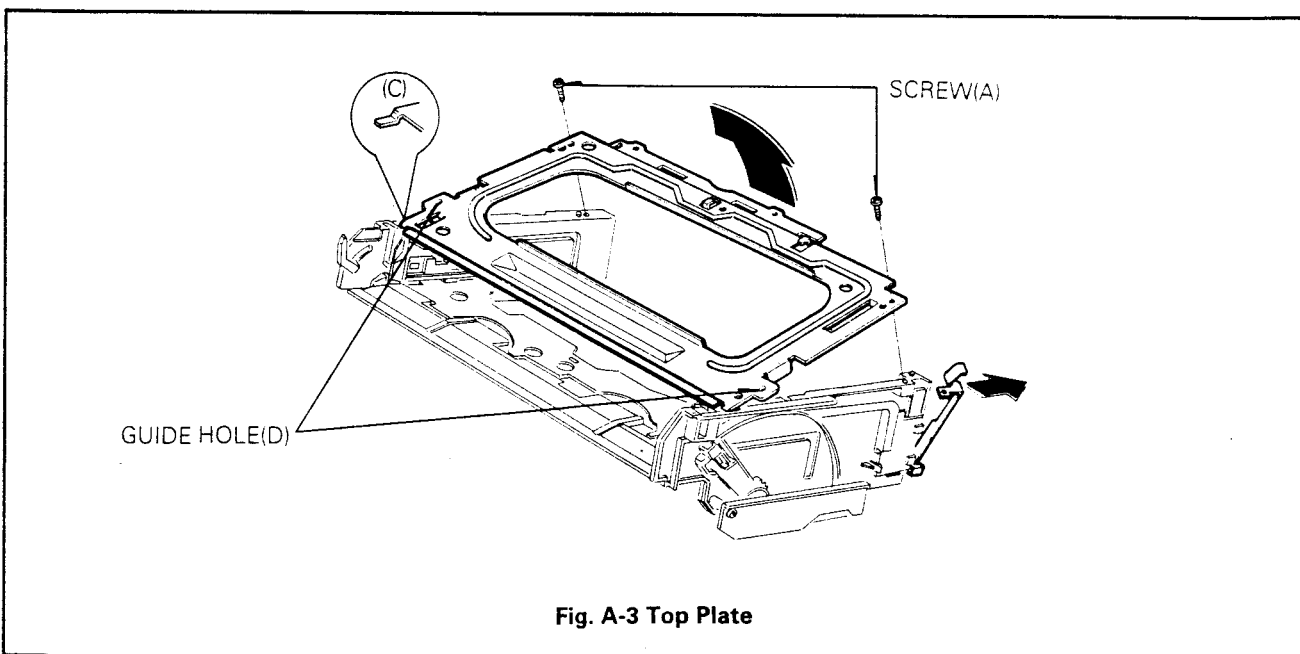
Fig. A-4-1 Carrier Bracket Assembly
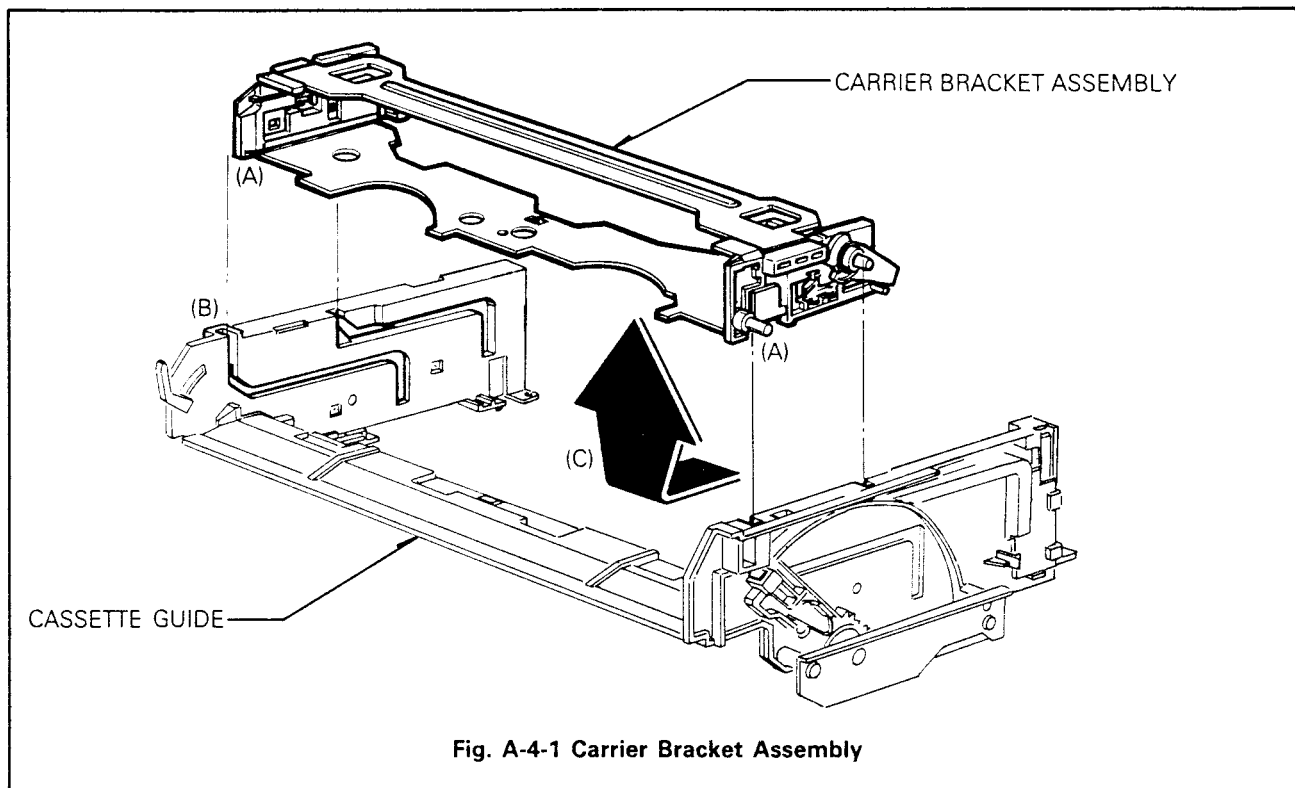
4-2. Cassette Opener(Fig. A-4-2)

1) Release the spring O.C from the Hook(A) and then release it from Hook(C) of cassette opener.
2) Remove the cassette opener by releasing the Hook(B) from the Holder(R).

4-3. Lid Opener(Fig. A-4-2)

1) Remove the lid opener by pushing it outward.

* NOTE

1) When reassembling, seat the upper part of the lid opener in the grooved of Holder(R) and push it inward.

Fig. A-4-2. Cassette Door Opener/Lid Opener
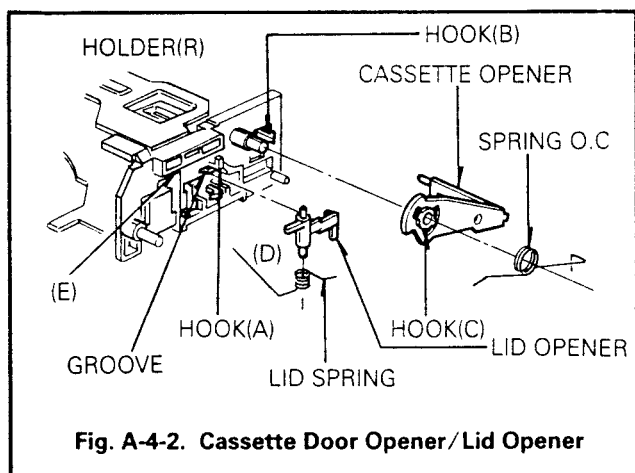
4-4. Detect Lever and Detect Spring

1) Remove the spring detect.
2) Lower the side(A) of Detect Lever and then remove the Detect Lever by pushing it outward.

* NOTE

1) When reassembling, make sure that the part(C) of Detect Lever set in the part(B) of Holder(R).

Fig. A-4-3 Detect Lever, Detect Spring
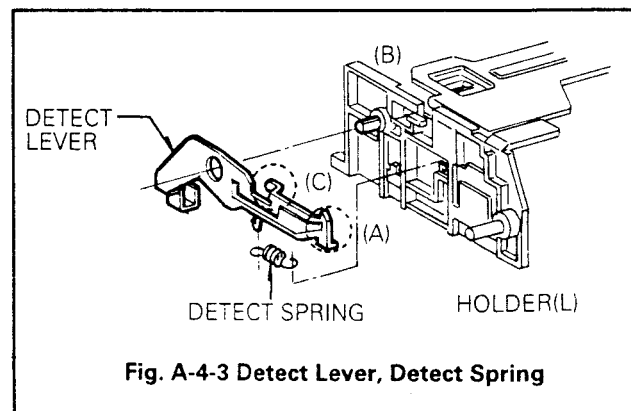
4-5. Bracket Support (Fig. A-4-4)

1) Take the Support Bracket out by releasing hooks(A),(B).

* NOTE

1) When disassembling and reassembling, be careful because heavy force can damage the hooks.
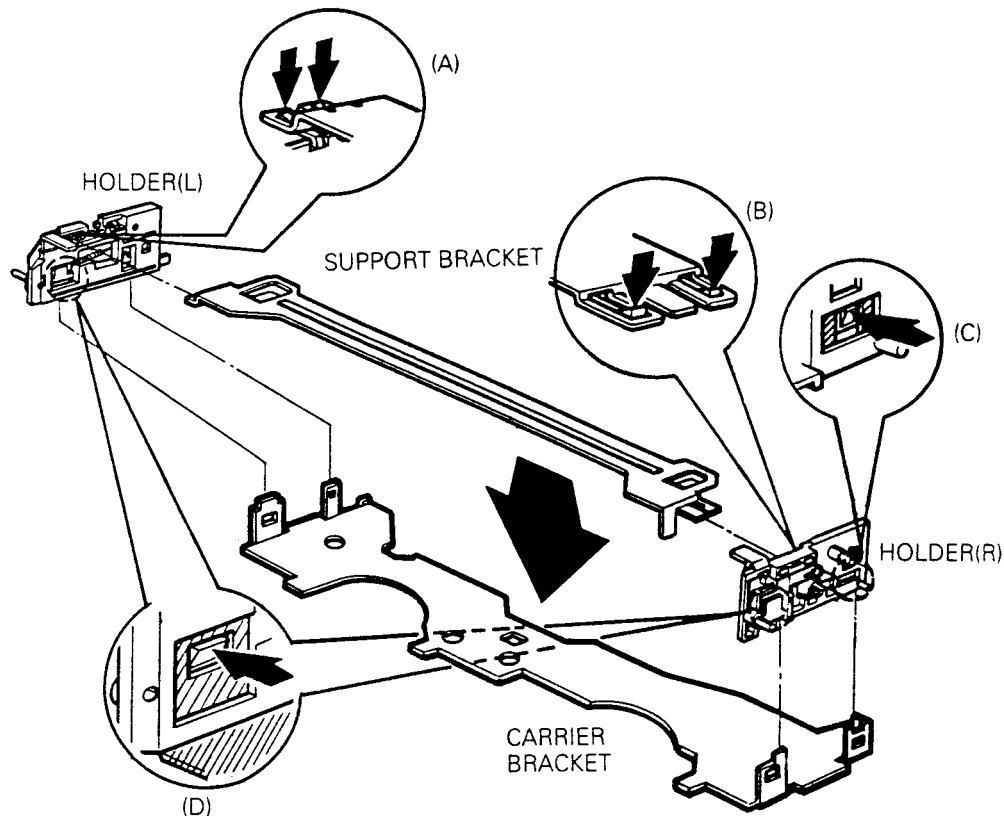
Fig. A-4-4 Bracket Support/Bracket Carrier

4-6. Carrier Bracket Assembly(Fig. A-4-4)

1) Remove the Carrier Bracket by releasing hooks(C),(D).

5. Cassette Guide(Fig. A-5)

1) Remove the Switch Spring with the Front Loading Mechanism Assembly turned over.
2) Push two hooks(B) outward.
3) Remove the Cassette Guide by pushing two hooks(A). outward(if one is removed, the other will be easy to remove)

* NOTE

1) When reassembling
① Seat projections(E) of Cassette Guide in holes of Bracket Assembly(L),(R) and then engage the Hook(A).
② After finishing previous step, fix the Cassette Guide to the Bracket Assembly(L),(R) by pushing two hooks(B) inward.
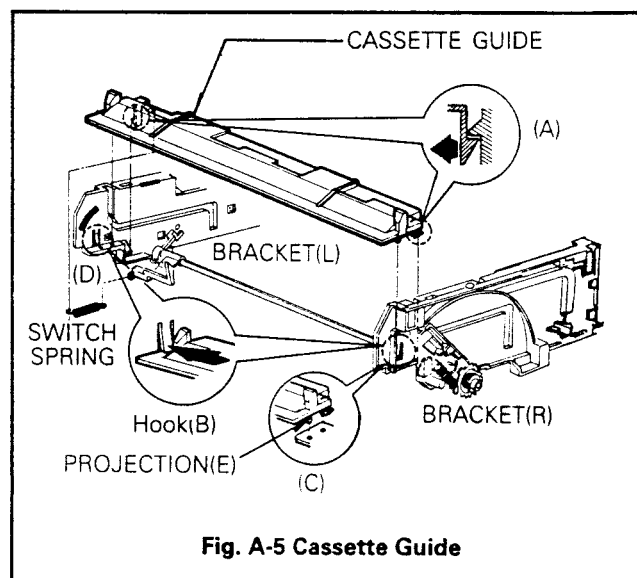
Fig. A-5 Cassette Guide

6. Bracket Assembly Side (Fig. A-6-1)

1) Remove two screws(A) and then remove the Side Bracket Assembly and the Rack Gear N.D.

* NOTE

1) When reassembling
① Turn the Drive Gear Assembly in the direction of arrow (C).
② Reassemble the Rack Gear N.D. to the Side Bracket Assembly, as shown in Fig. A-6-2, and then reassemble
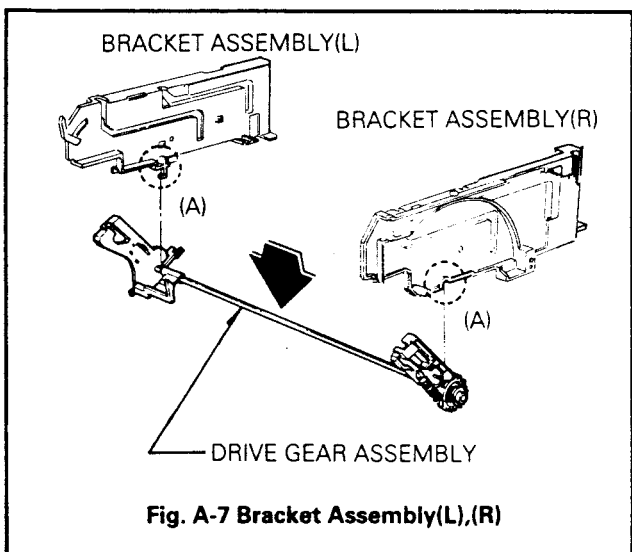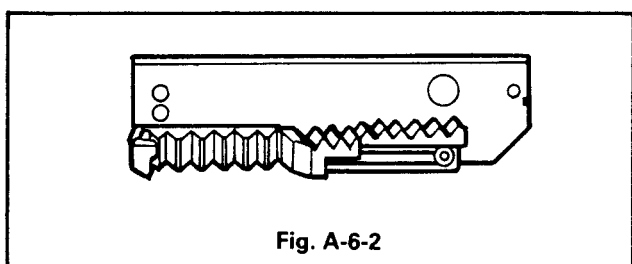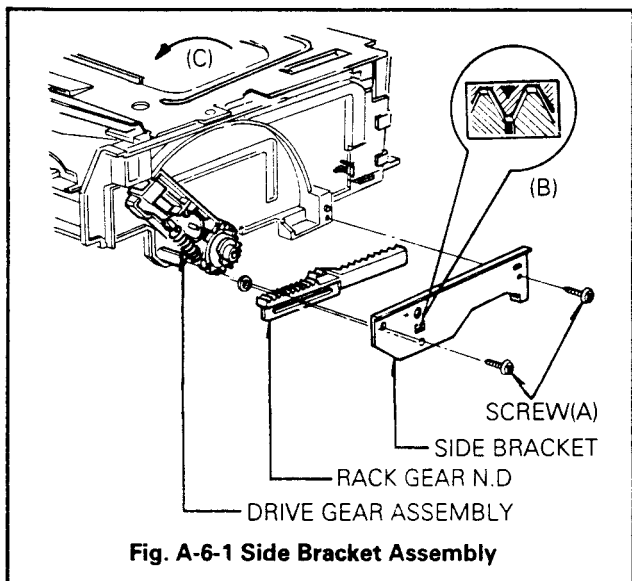
it to the Bracket Assembly(L), This time the Assembling Figure should be the same as(B) at the rectangular hole of Bracket Side.

7. Bracket Assembly(L),(R)(Fig. A-7)

1) Seperate the Bracket Assembly(L),(R) from the Gear Assembly Drive.

* NOTE

1) When reassembling, seat the shaft in the part(A) of Bracket Assembly(L),(R).

8. Door Opener(Fig. A-8)

1) Remove the Door Opener by pushing Hook(A) outward.

* NOTE

1) When reassembling, seat the part(B) of Door Opener in the hole( ) of Bracket(L).

SCREW(A)
SIDE BRACKET
RACK GEAR N.D
DRIVE GEAR ASSEMBLY

Fig. A-6-1 Side Bracket Assembly

Fig. A-6-2

BRACKET ASSEMBLY(L)

BRACKET ASSEMBLY(R)

(A)

(A)

DRIVE GEAR ASSEMBLY

Fig. A-7 Bracket Assembly(L),(R)

HOLE( )

BRACKET ASSEMBLY(L)

HOOK(A)
DOOR OPENER

Fig. A-8 Door Opener
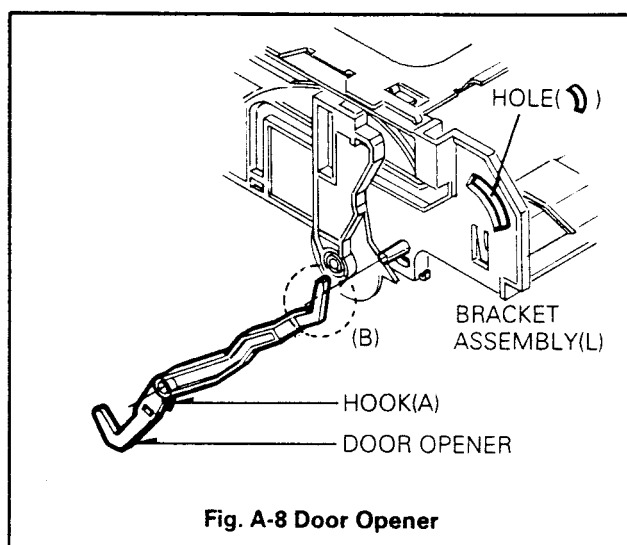
9. Drive Gear Assembly

9-1. Drive Gear Assembly(Fig. A-9-1)

1) Remove the Drive Gear Assembly from the Bracket Assembly(L),(R).

9-2. Cushion Spring(Fig. A-9-1)

1) Remove the cushion spring from the Gear R .

9-3. Cap-D(Fig. A-9-1)

1) Remove the Cap-D by lifting it up.

9-4. Spring C.C(Fig. A-9-1)

1) Remove the Spring C.C from the Gear R.

9-5. Gear C(Fig. A-9-1)

1) Remove the Gear C by lifting up when the projection of Gear C is aligned with the hole of Gear R while rotating the Gear C in the counterclockwise direction.

BRACKET ASSEMBLY(L)

BRACKET ASSEMBLY(R)

SPRING (L)

GEAR (L)

SWITCH SPRING

SWITCH LEVER

SHAFT D

GEAR R

GEAR C

SPRING C.C

CAP. D

SPRING CUSHION

SPRING R

Fig. A-9-1 Gear Assembly Drive
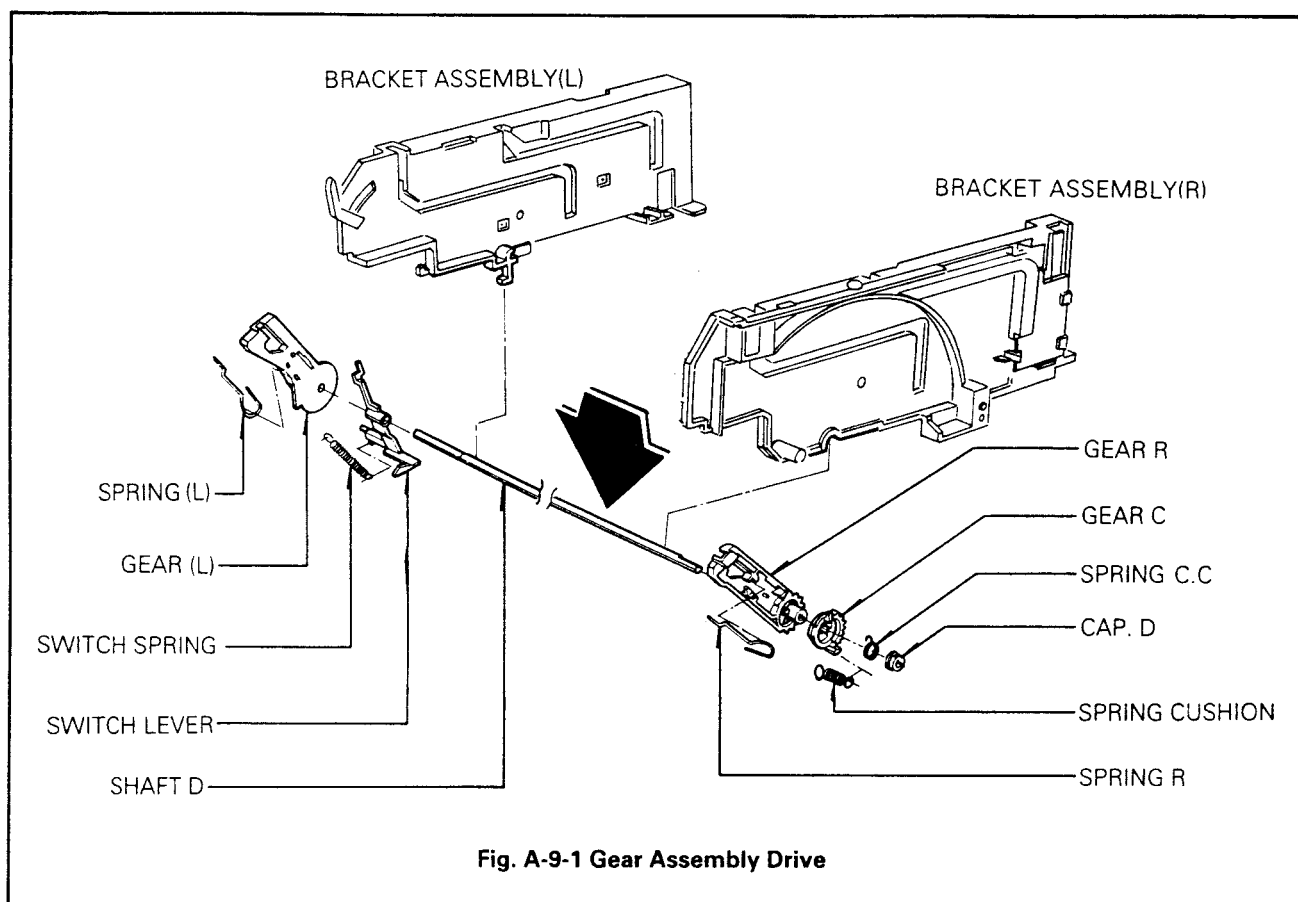
* NOTE

1) When reassembling, seat the projections of Gear R in the holes of Gear C when the projection of Gear R is aligned with the hole of Gear C, and then keep the Gear C turned in the clockwise direction.

9-6. Gear R(Fig. A-9-1)

1) Lift up the Gear R from the Shaft.

9-7. Spring R(Fig. A-9-2)

1) Remove the Spring R by releasing Hooks.

* NOTE

1) When reassembling, be certain Spring R in the part(A) of Gear R.

9-8. Gear L.(Fig. A-9-1)

1) Remove the Gear L from the shaft.

9-9. Spring L (Fig. A-9-2)

1) Remove the Spring L by releasing Hooks from the Gear L.

* NOTE:(Refer to the Spring R Section)

9-10. Switch Lever(Fig. A-9-1)

1) Remove the Switch Lever from the shaft.

SPRING R

(B)

GEAR R

(A)

Fig. A-9-2 Spring R
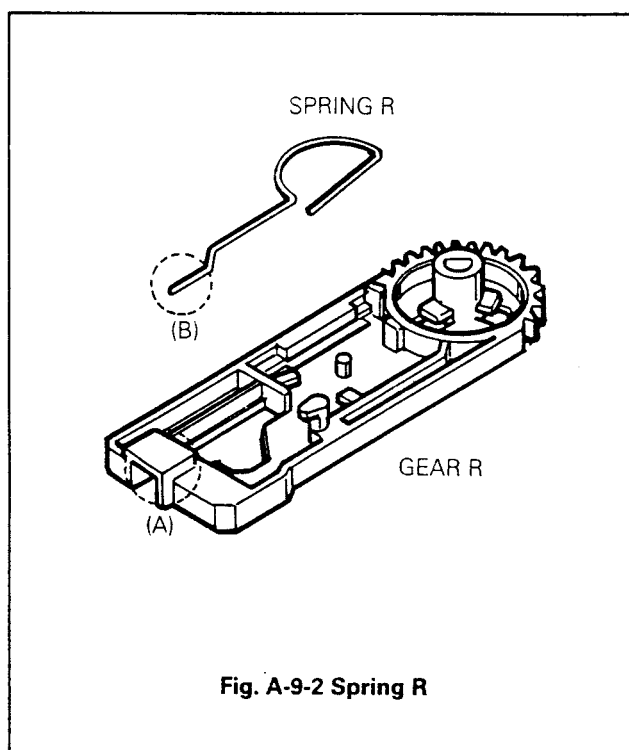
DECK MECHANISM DISASSEMBLY

• Deck Mechanism Parts Location

Top Side

AUTO HEAD CLEANER ASSEMBLY

DRUM BASE

DRUM ASSEMBLY
FULL ERASE HEAD
ASSEMBLY

P2, P3 SLANT
ASSEMBLY

TENSION ARM
ASSEMBLY

SUPPLY REEL
ASSEMBLY

A/C HEAD ASSEMBLY

LOADING MOTOR
ASSEMBLY

PINCH LEVER
ASSEMBLY

TAKE-UP REEL
ASSEMBLY

BRACKET F.R
ASSEMBLY

IDLER GEAR A.B

Bottom Side

CAPSTAN MOTOR
ASSEMBLY

BOTTOM BRACKET
ASSEMBLY

MODE SWITCH

PULLEY GEAR
ASSEMBLY

FUNCTION PLATE

LOADING GEAR
ASSEMBLY

JUNCTION P.C.B
ASSEMBLY

CLUTCH GEAR
ASSEMBLY

1. Auto Head Cleaner Assembly (Fig. B-1) (Optional Item)

1) Remove the Cleaner Arm Assembly (Auto Head Cleaner Assembly) by pushing the Locking Tab.(B) outward.
2) Remove the Cleaner Upper Spring and then remove the Cleaner Upper Arm Sub Assembly.
3) Remove the Cleaner Spring.

* NOTE

1) When reassembling, do not touch the Video Head Tip with fingers or tools.

CLEANER UPPER ARM SUB ASSEMBLY

CLEANER UPPER SPRING

CLEANER ARM

CLEANER SPRING

HOOK(B)

HOOK(A)
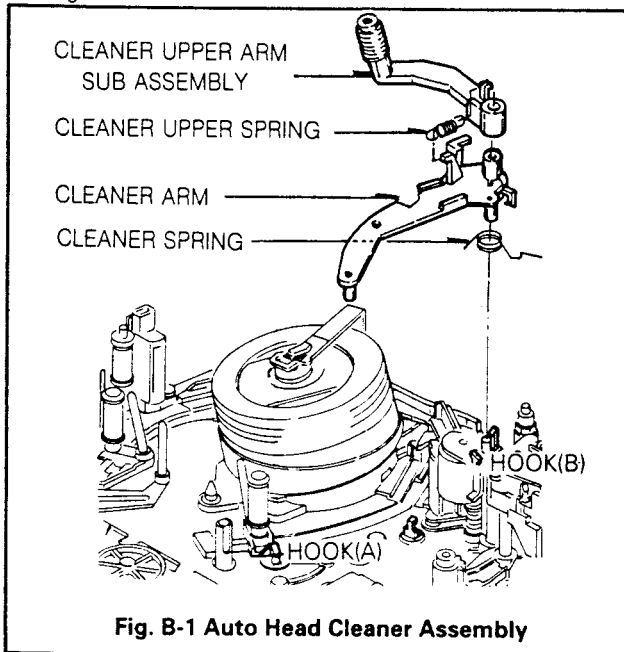
Fig. B-1 Auto Head Cleaner Assembly

2. Drum Assembly and Drum Base(Fig. B-2)

1) Remove the Auto Head Cleaner Assembly.
2) Unplug the connector with the Deck Mechanism Assembly turned over.
3) Loosen the screw(A) and then lift up the Drum Brush.
4) Remove two screws(B) and then lift up the Drum Assembly and Drum Base from the Deck Mechanism Assembly.
5) Separate the Drum Assembly from the Drum Base by Loosening three screws(C) on the back of Drum Base.

* NOTE

1) When disassembling and reassembling
① Do not touch the Video Head tip with fingers or tools. (Give special attention to disassembling and reassembling of Auto Head Cleaner Assembly)
② After reinstalling the Drum Brush, the Drum Brush should be aligned with the center of vertical axis of Drum Assembly.
③ After completing the reassembly, adjust the transportation system and the Servo P.G.

3. Upper and Lower Drum Assembly (Fig. B-3)

1) Remove the Drum Assembly and Drum Base from the

SCREW(A)

DRUM ASSEMBLY

SCREW(B)
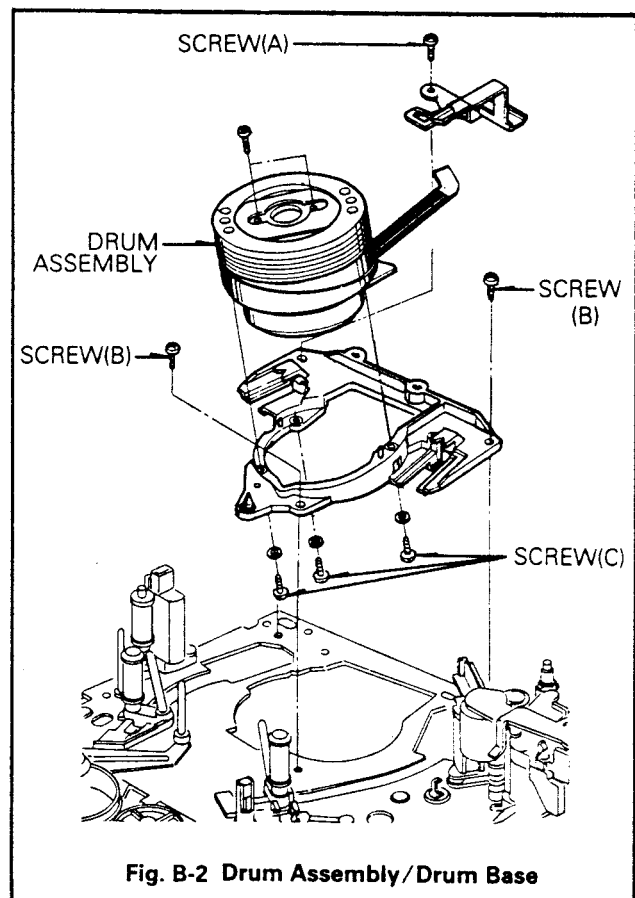
SCREW (B)

SCREW(C)

Fig. B-2 Drum Assembly/Drum Base

Deck Mechanism Assembly.

2) Separate the Drum Assembly from the Drum Base.
3) Remove two screws(A).
4) Remove the P.C.B.
5) Separate the upper Drum Assembly from the Lower Drum Assembly.

* NOTE

1) When disassembling and reassembling
① Do not touch the Video Head Tip with fingers or tools.
② Make sure that the color(white) marked on the P.C.B of the upper Drum should coincide with the color(Green) marked on the Flange Assembly.

SCREW(A)

UPPER DRUM ASSEMBLY

LOWER DRUM ASSEMBLY
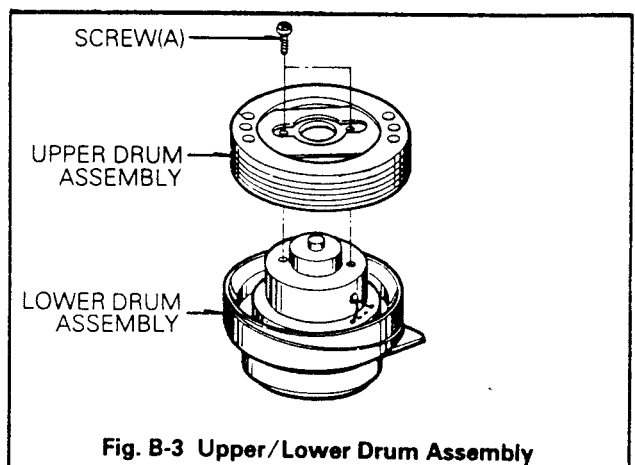
Fig. B-3 Upper/Lower Drum Assembly

4. A/C(Audio/Control) Head Assembly (Fig.B-4)

1) Unplug the connector
2) Remove the Nut(A), and then lift up the A/C Head Assembly.
3) Remove the Azimuth Adjusting Screw.
4) Remove two screws(B),(D) and then separate the A/C Head Assembly from the Base A/C Head Assembly.

* NOTE

1) When disassembling
① First of all, release the spring A/C.
② Do not touch the A/C Head Tip with fingers or tools.
③ After reinstalling the Audio Control Head Assembly, adjust the Tilt, Azimuth and Height of A/C Head.

CONNECTOR
AZIMUTH ADJUSTING SCREW
SCREW (B)
SPRING(C)
SCREW (D)
A/C HEAD ASSEMBLY
NUT(A)
A/C HEAD BASE
A/C SPRING
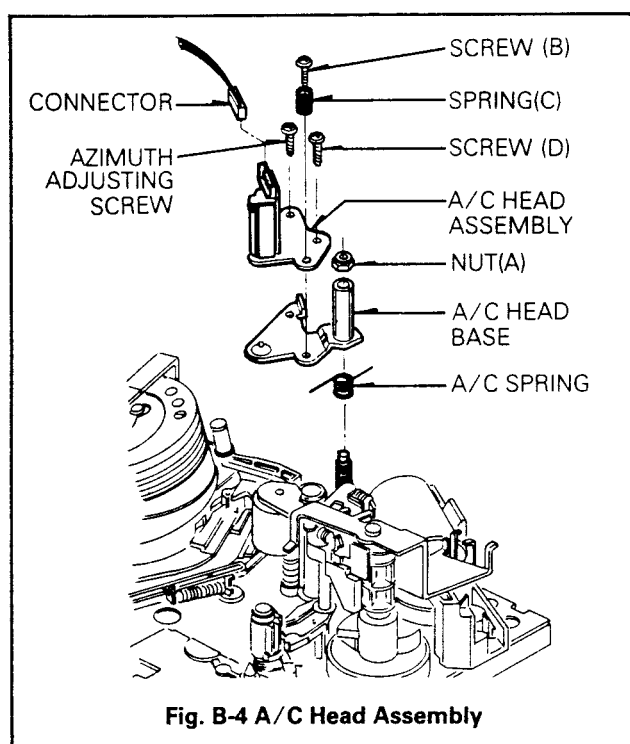
Fig. B-4 A/C Head Assembly

5. Pinch Lever Assembly(Fig. B-5)

1) Remove one Nut, and then remove the Dew Bracket.
2) Lift up Pinch Lever Assembly.
3) Remove the Pinch Spring, and remove the Pinch Lever.
4) Remove the Stopper Spring and remove the Pinch Stopper by lifting it up when the Hook of Pinch Stopper is aligned with the hole of Pinch Arm while rotating the Pinch Stopper in the counterclockwise direction.
5) Remove the Pinch Cap, and then remove the Pinch Roller Assembly.

* NOTE

1) When disassembling and reassembling
① Be careful not to get any foreign substance on the Roller.
② When disassembling the Pinch Cap, be careful not to damage the Pinch Arm.

NUT
PINCH ARM
ROLLER
PINCH CAP
PINCH SPRING(A)
STOPPER SPRING
PINCH STOPPER
PINCH LEVER
TAKE UP LEVER
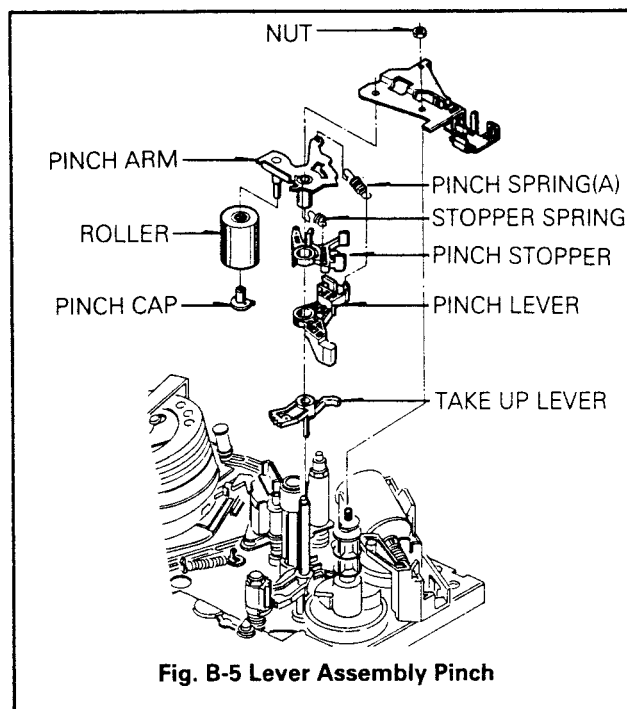
Fig. B-5 Lever Assembly Pinch

6. Loading Motor Assembly(Fig. B-6-1, B-6-2)

1) Remove the Dew Bracket.
2) Unplug the connector from the Junction P.C.B Assembly
3) Remove two screws(A).
4) Remove the worm wheel by pushing it down.
5) Remove the Loading Motor Assembly by pushing(C) and (D) outward.
6) Remove the worm Gear Assembly from the Loading Motor Assembly by pushing it.

* NOTE

1) When reassembling
① Make sure that the worm assembly is seated in the axis of Loading Motor.
② Two grooves(G) of Loading Motor should be turned up and two projections(F) of Bracket Assembly should be seated in each at the two holes(E)(Fig. B-6-1).
③ Take notice of the polarity of the Loading Motor.

BRACKET ASSEMBLY
PROJECTION (F)
LOADING MOTOR
HOLE(E)
GROOVE (G)

Fig. B-6-1

Fig. B-6-2 Loading Motor Assembly
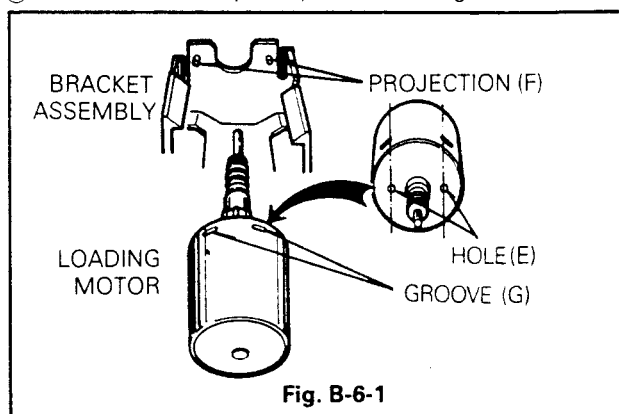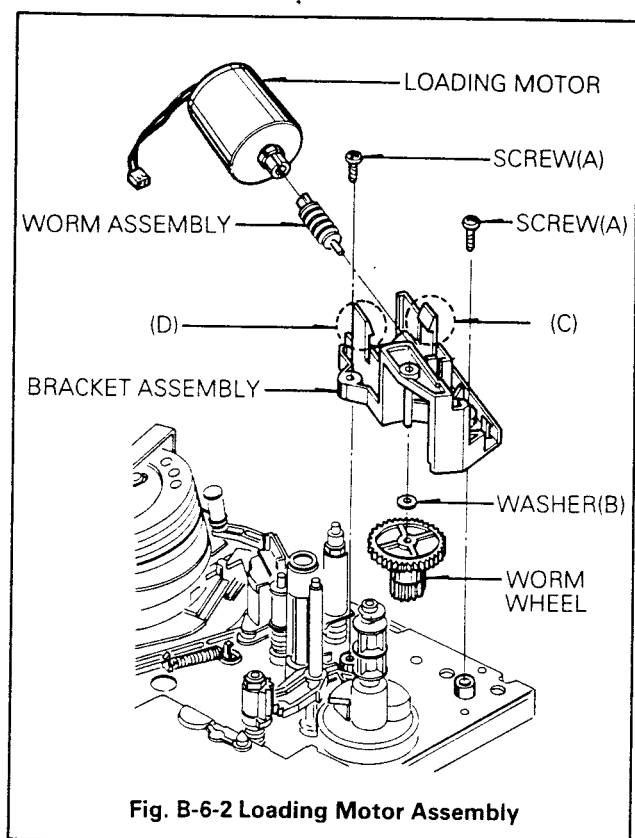
7. Take Up Lever(Fig. B-7)

1) Remove the Dew Bracket.
2) Remove the Pinch Lever Assembly.
3) Remove the Take-Up Lever by pushing the hook(A) outward.

* NOTE

1) When disassembling and reassembling
① When disassembling the Take-Up Lever, be careful not to break the Hook(A).
② When reassemble the Take-Up Lever.align the appendant Gear of Lever Take-Up with the appendant Gear of Take-up Arm
③ Reassemble the Take-Up Lever completely by hooking (A).

8. Take Up Arm Assembly(Fig. B-8)

1) Remove the Dew Bracket, Pinch Gear, and the Take-Up Lever
2) Remove one Nut(A).
3) Remove the Take-Up Arm Assembly by lifting it up.
4) Remove the spring(B).

* NOTE

1) When reassembling
① Align the Gear of Take-Up Arm with the Gear of Take-Up Lever.

Fig. B-7. Take-Up Lever

Fig. B-8 Take-Up Arm Assembly/P4
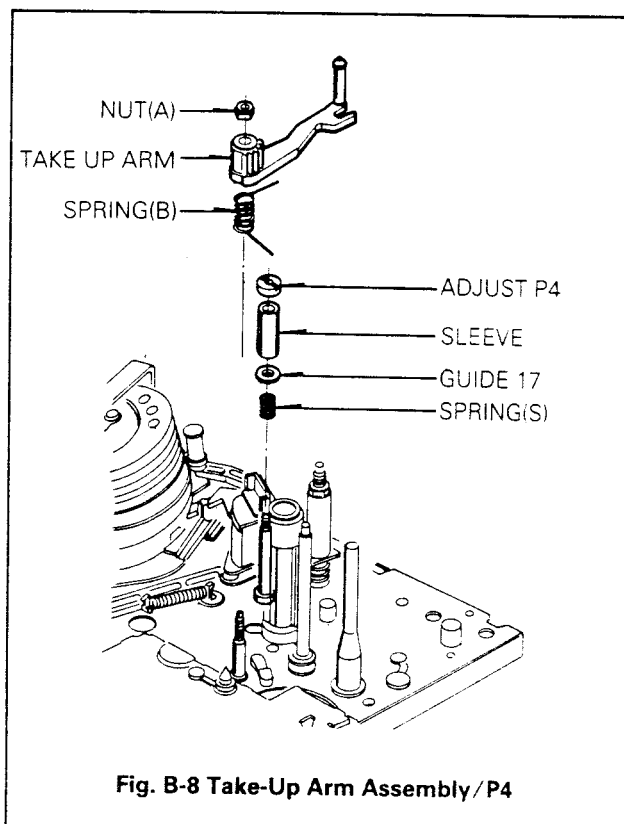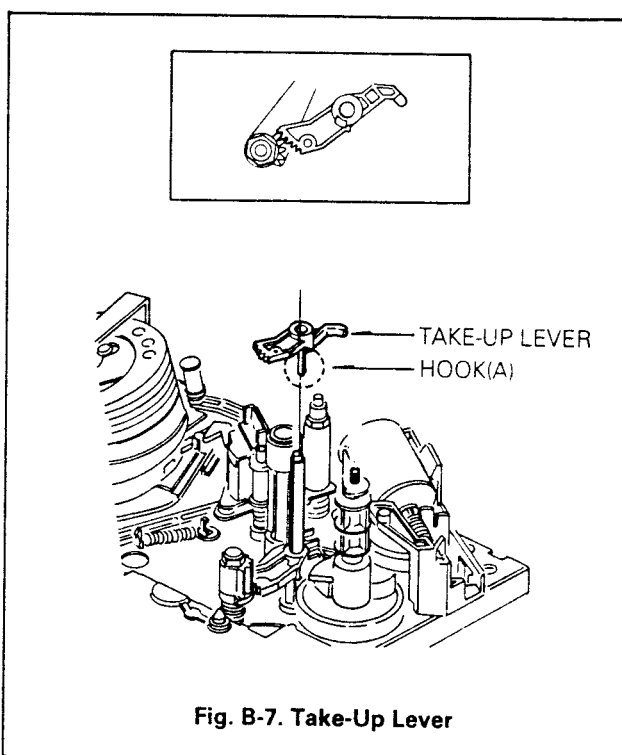
9. P4 Assembly(Fig. B-8)

1) Remove the Adjust P4.
2) Remove the Sleeve.
3) Remove the Guide 17.
4) Remove the Spring

10. Pinch Gear

1) Remove one Nut(A) and then remove the Dew Bracket.
2) Remove the Pinch Lever Assembly by lifting it up.
3) Remove the Loading Motor Assembly.
4) Remove the Take Up Lever.
5) Remove the Pinch Gear Assembly.

• NOTE

1) When reassembling, align the hole(A) of Pinch Gear with the hole of chassis, and the hole(C) of Pinch Gear with the groove(D) of the P.C.Gear. Hole(E) of chassis should be aligned with the hole of P.C.Gear.
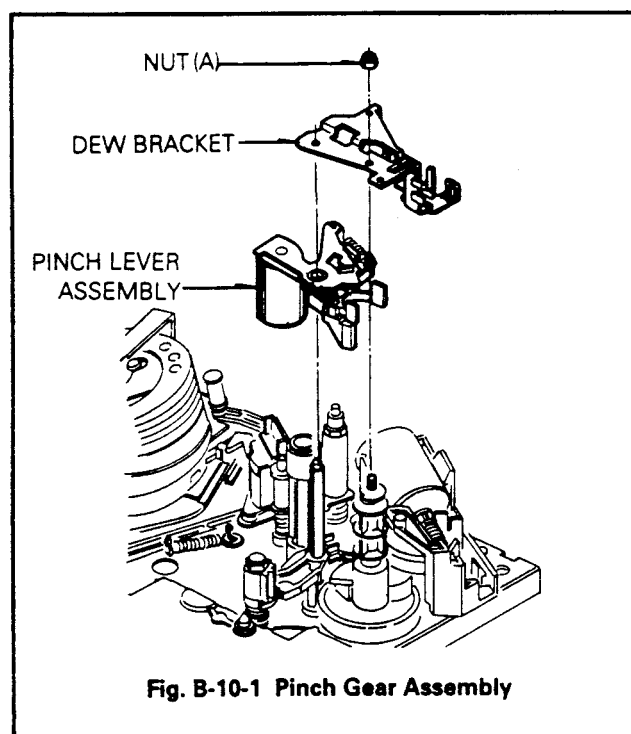
Fig. B-10-1 Pinch Gear Assembly
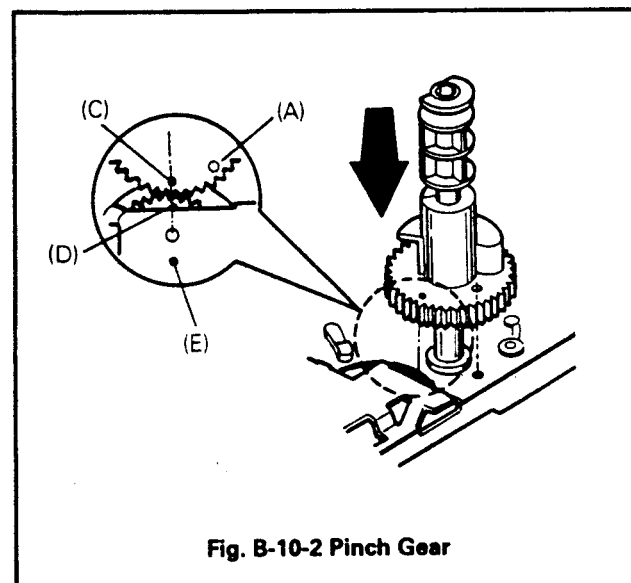
Fig. B-10-2 Pinch Gear

11. FE(Full Erase) Head Assembly(Fig. B-11) (Optional Item)

1) Unplug the connector.
2) Remove one screw(A), and then remove the FE Head.

• NOTE

1) When disassembling and reassembling
① Do not touch the Video Head Tip with fingers or tools.

12. P1 Assembly(Fig. B-11)

1) Remove the Stopper P1.
2) Remove the Roller P1 .
3) Remove the Sleeve P1.
4) Remove the Guide 17.
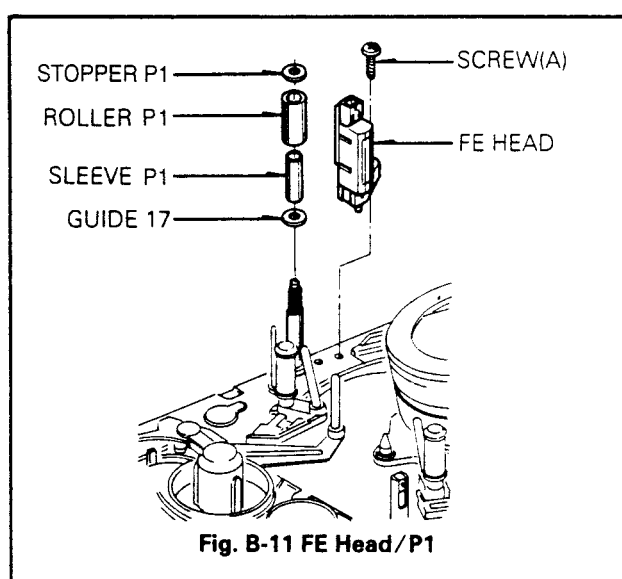
Fig. B-11 FE Head/P1

13. Tension Arm Assembly(Fig. B-13)

1) Remove one screw(C).
2) Remove the Tension Spring.
3) Remove the Tension Arm Assembly by pushing hooks outward with the Deck Mechanism Assembly turned over.
4) Remove the Tension Band Assembly from the Tension Arm by pushing Hooks of Holder(A).

• NOTE

1) When disasembling and reassembling, give special attention to the disassembling and reassembling of Tension Arm Assembly, because the Tension Band is interposed between the Supply Reel and the Soft Brake.

Fig. B-13 Tension Arm Assembly
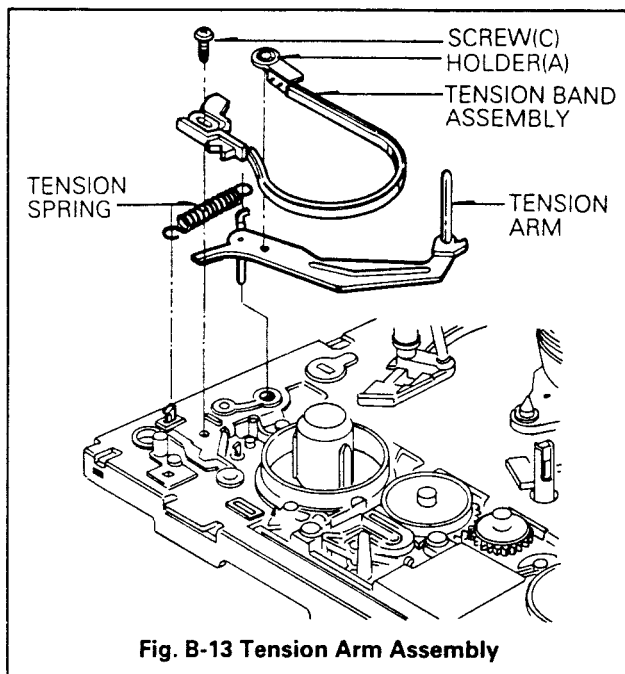
14. Supply Soft/Supply Main/Take-Up Soft/Take-Up Main Brake Assembly

1) Supply Soft Brake(SSB)
   ① Remove the SSB Spring.
   ② Remove the SSB.
2) Supply Main Brake(SMB)
   ① Remove the SMB Spring.
   ② Remove the SMB.
3) Take Up Soft Brake(TSB)
   ① Remove the TSB Spring.

Fig. B-14 SMB/SSB/TMB/TSB
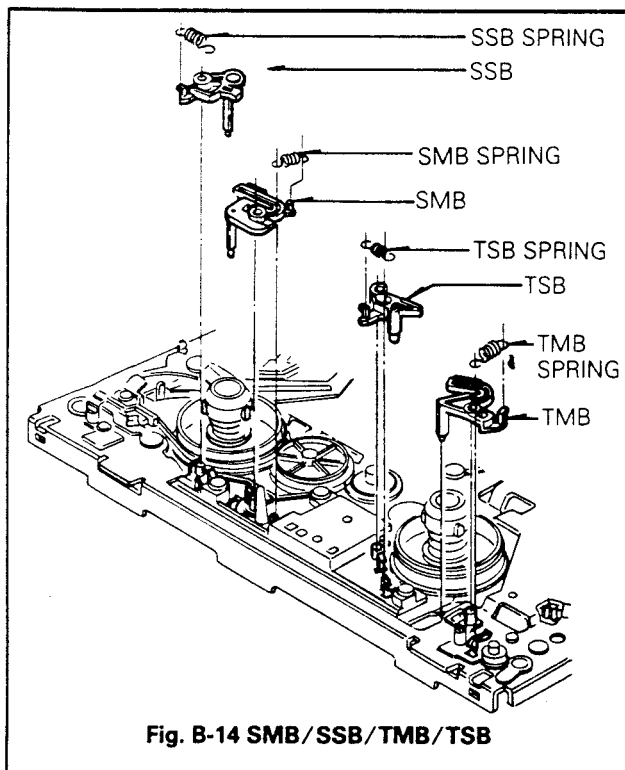
② Remove the TSB.
4) Take-Up Main Brake(TMB)
   ① Remove the TMB Spring.
   ② Remove the TMB.

15. Bracket F/R(FF/Rewind) Assembly (Fig. B-15)

1) Remove the TMB.
2) Remove the Washer(A), and then remove the Gear F.R.
3) Remove three screws, and then remove Bracket F/R Assembly from the Deck Mechanism Assembly.
4) Remove the Washer(B), and spring Up/D, and then remove the Gear Up/D.
5) Remove the shaft(C), and then remove the Arm F.R, Lever F.R and Spring F.R.

Fig. B-15 Bracket F.R Assembly
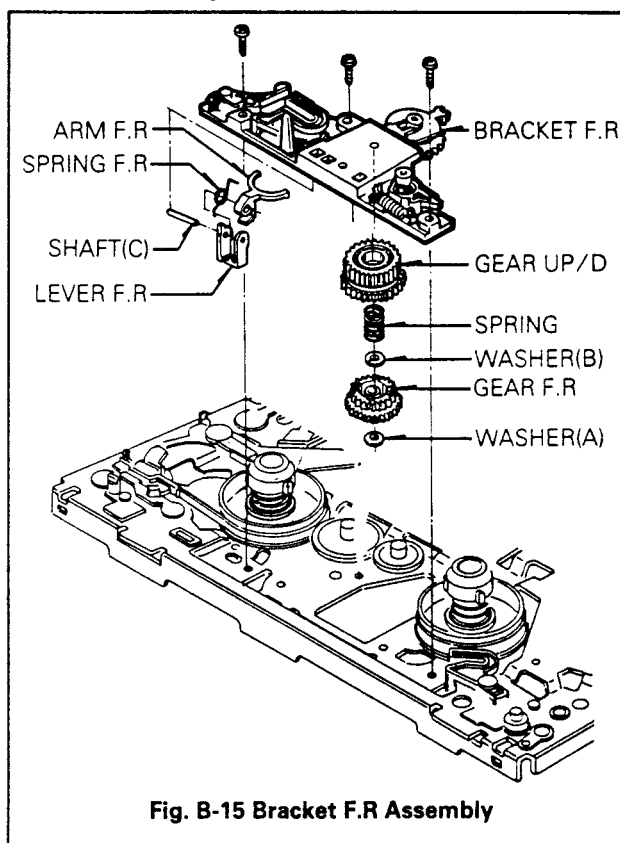
16. Supply Reel Assembly(Fig. B-16)

1) Remove the Tension Band Assembly.
2) Remove the Bracket F/R.
3) Lift up the Supply Reel Assembly from the Deck Mechanism Assembly.
4) Separate the Reel Cap from the Supply Reel by taking it out of Hooks(A).

17. Take Up Reel Assembly(Fig. B-16)

1) Remove the TMB(Fig. B-14)
2) Lift up the Take-up Reel Assembly from the Deck Mechanism Assembly.
3) Separate the Reel Cap and Spring from the Take-Up Reel by releasing Hooks(S).

* **NOTE**

1) When reassembling
   ① Make sure that the Supply and Take Up Reel are not exchanged.
   ② After reinstalling the Supply Reel Assembly, Adjust the Tension.
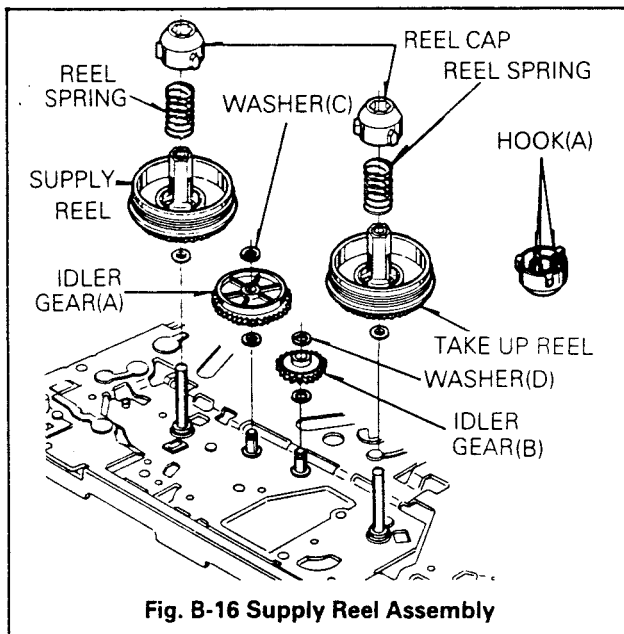
Fig. B-16 Supply Reel Assembly

18. Idler Gear(A), (B)(Fig. B-16)

1) After removing the Supply Reel, and supply Main Brake Assembly, remove the washer(C) and remove the Idler Gear(A).
2) Remove the Washer(D) and remove the Idler Gear(B).

19. Pulley Gear Assembly(Fig. B-19)

1) Turn over the Deck Mechanism Assembly.
2) Remove the Capstan Belt.
3) Remove the Washer(A) and lift up the Pulley Gear.
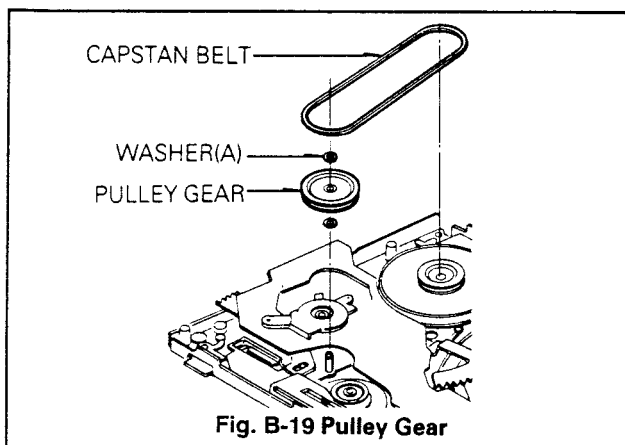
Fig. B-19 Pulley Gear

20. Bracket Bottom Assembly(Fig. B-20)

1) Remove one screw(A).
2) Remove one Hexagonal Nut, and then lift up the Bracket Bottom Assembly.
3) Remove one Washer, and lift up the Ratchet Gear 1.
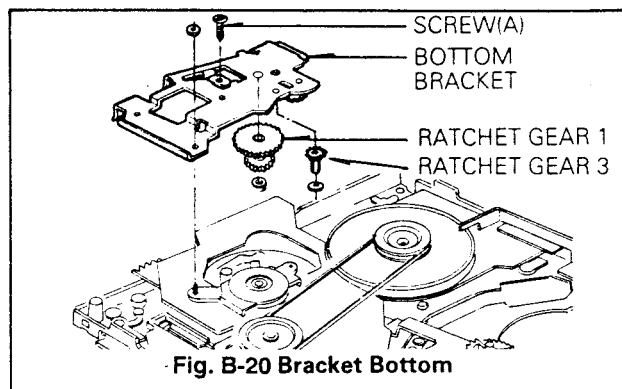
Fig. B-20 Bracket Bottom

4) Remove the washer, and then remove Ratchet Gear 3 from the Bottom Bracket.

21. Junction PCB(Printed Circuit Board) Assembly (Fig. B-21-1)

1) Remove the Bottom Bracket Assembly.
2) Remove two screws(A),(B) and then remove the Junction P.C.B Assembly.
3) Remove the Mode Switch from the Junction P.C.B Assembly.
4) Remove the Reel Sensors, Sensor LEDS and each holder from the Junction P.C.B(Fig. B-21-2).

* **NOTE**

1) When reassembling the Mode Switch, the groove(V) and (U) of Mode Switch should be at their original place in the Eject Mode.
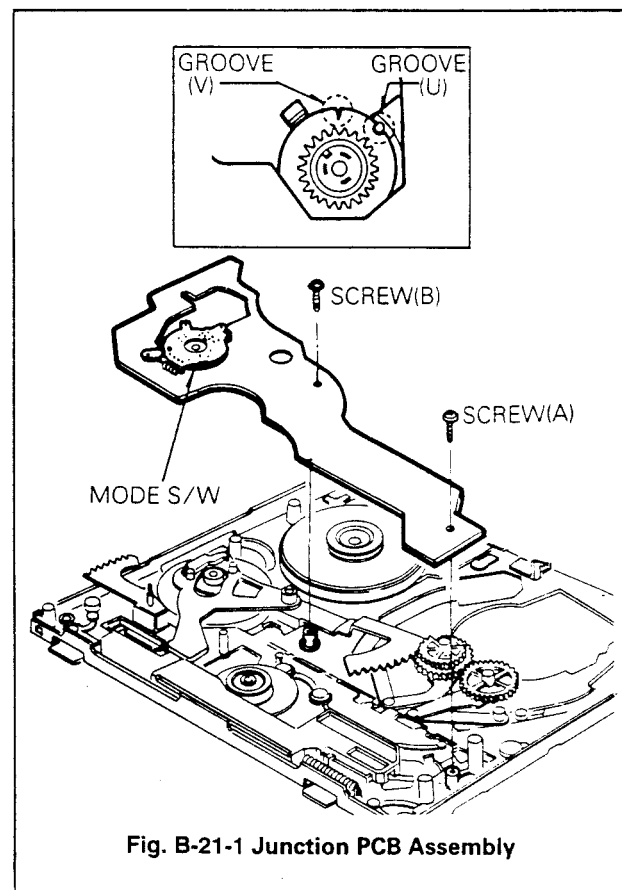
Fig. B-21-1 Junction PCB Assembly

Fig. B-21-2 Mode S/W/Reel Sensor/Sensor Led
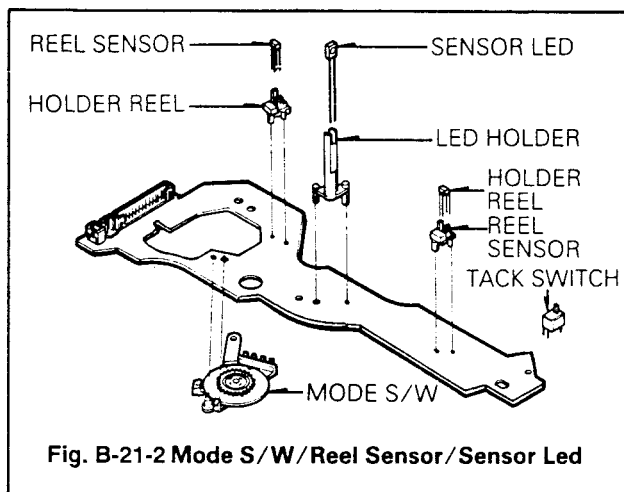
22. Capstan Motor and Brake Assembly (Fig. B-22-1)

1) Remove the Junction P.C.B Assembly
2) Hook the end of Capstan Brake Spring to the projection of Capstan Brake and then remove the Capstan Brake Assembly by lifting it up (Fig. B-22-2).
3) Remove two Screws(A), and then remove the Bracket C-Guide.
4) Remove the Connector.
5) Remove three screws(B), and then remove the Capstan Motor Assembly from the Deck Mechanism Assembly.

* NOTE

1) When disassembling and reassembling, hook end of the spring on the projection of Cap-Brake and remove it by lifting it up. Reassemble it in the opposite manner.

Fig. B-22-1 Capstan Motor Assembly
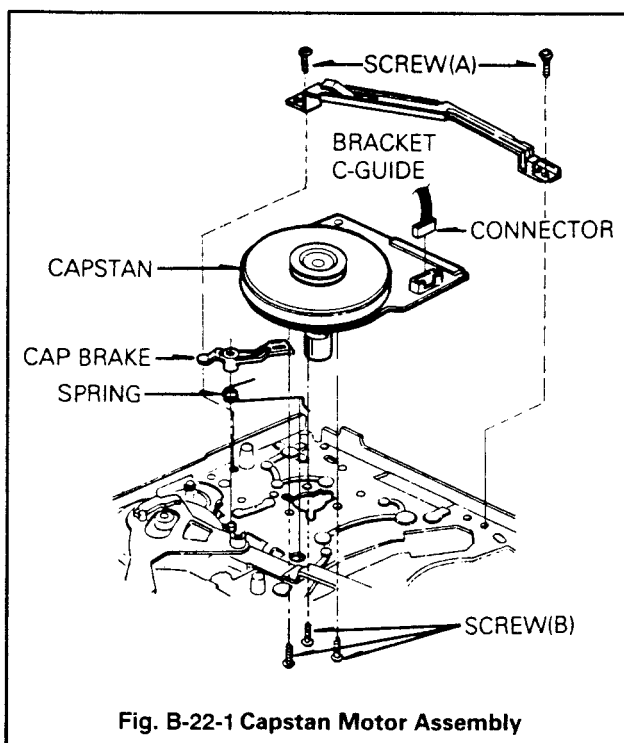
A: BEFORE REASSEMBLING OR AFTER DISASSEMBLING

PROJECTION
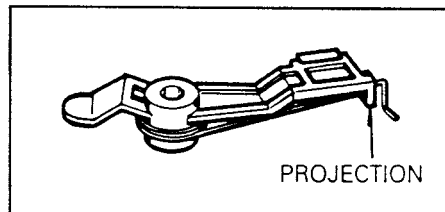
B: AFTER REASSEMBLING OR BEFORE DISASSEMBLING

HOLE OF CHASSIS
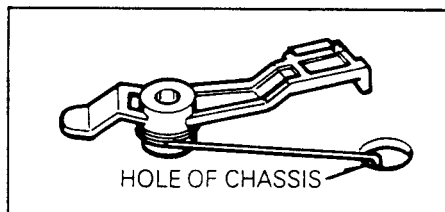
Fig. B-22-2 CAP Brake Assembly

23. Function Plate (Fig. B-23)

1) Remove two screws(B) in Eject Mode.
2) Remove the Function Plate Spring.
3) Remove the Function Plate.

* NOTE

1) When reassembling the groove of Lower part of Function Plate should be aligned with the shaft of Tension Lever Assembly (Fig. B-29).

Fig. B-23 Function Plate
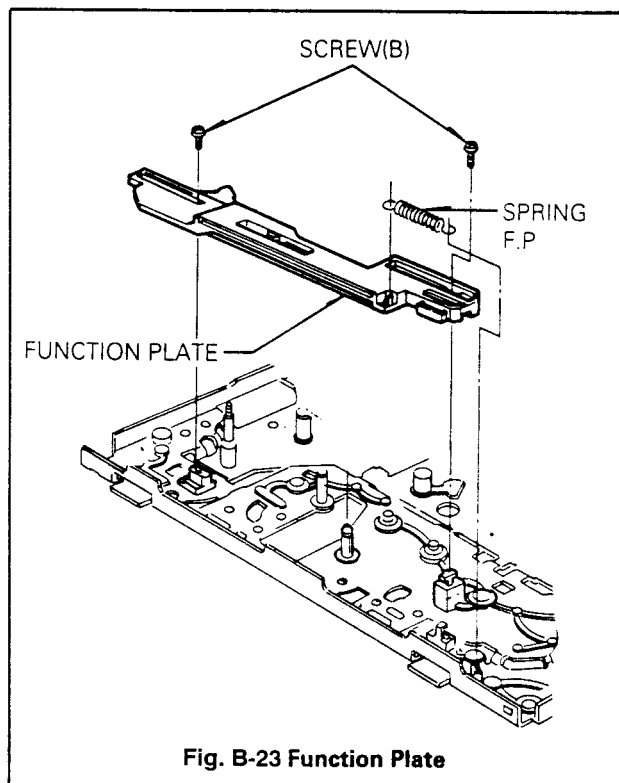
24. Ratchet Lever Assembly (Fig. B-24)

1) Remove the Function Plate.
2) Remove the Junction P.C.B Assembly.
3) Remove the Washer(A) and then remove the Ratchet Lever Assembly.
4) Remove the Ratchet Spring.
5) Remove the Ratchet Lever from the Ratchet 17 by lifting it up when the hook of it is aligned with the hole of Ratchet 17 while rotating it counterclockwise direction.
6) Remove the Washer(B), and turn over the Ratchet 17 and then remove the Slant Pin, Spring F, Lever.

Fig. B-24 Ratchet Lever Assembly
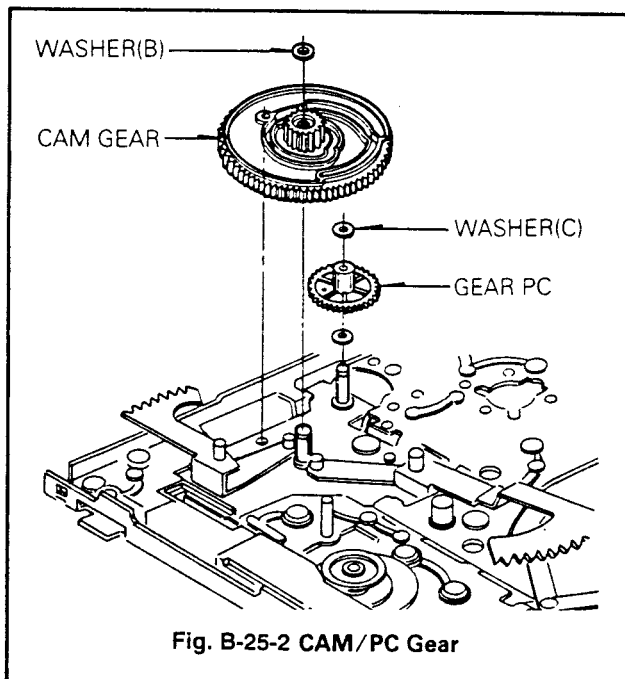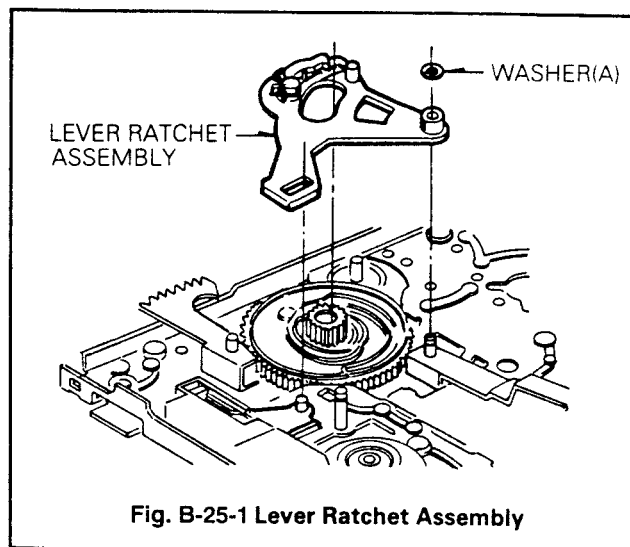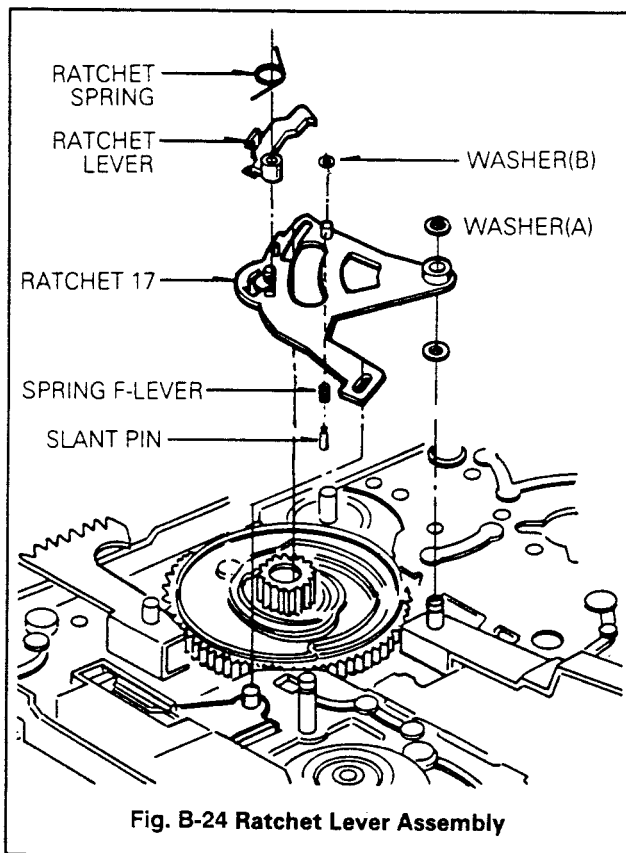
25. Cam Gear/Rack Gear T/Rack Gear FL (Fig. B-25-2)

1) Remove the washer(A) and remove the Ratchet Lever Assembly. (Fig. B-25-1).
2) Remove the washer(B), and then remove the Cam Gear (Fig. B-25-2).
3) Remove the Rack Gear F.L. (Fig. B-25-3).
4) Remove the Rack Gear T. (Fig. B-25-3).

* NOTE

1) When reassembling
① Align the Projection of Rack Gear T with the hole of Loading Gear.
② Drive the Rack Gear F.L in the direction of arrow(D).
③ Hole of Cam should be aligned with the hole of chassis, and the groove(◢) of Cam Gear should be aligned with the hole of PC Gear (Fig. B-26).

Fig. B-25-1 Lever Ratchet Assembly

Fig. B-25-2 CAM/PC Gear

Fig. B-25-3 Rack Gear F.L/Rack Gear T

Fig. B-25-4 Rack Gear F.L/Rack Gear T/CAM Gear
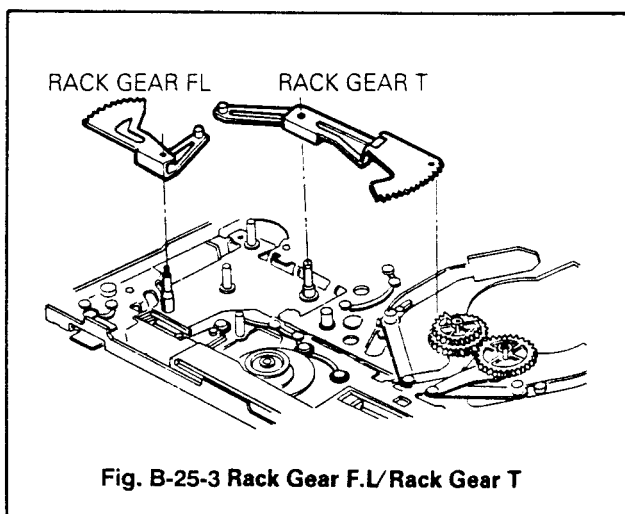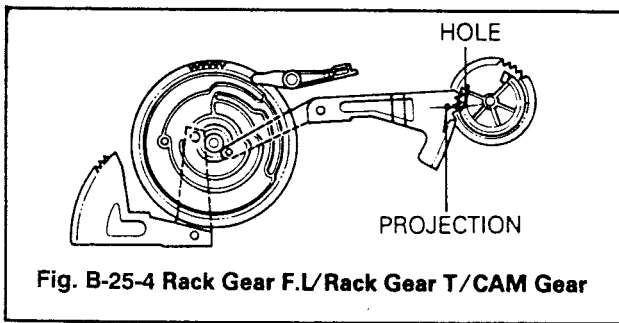
26. PC Gear(Fig. B-26)

1) Remove the washer(C).
2) Remove the P.C Gear by lifting it up.

* NOTE

1) When reassembling
① The Groove of PC Gear should be aligned with the groove(V) of Cam Gear, and another hole of it should be aligned with the hole of chassis (Fig. B-26).

Fig. B-26 PC Gear
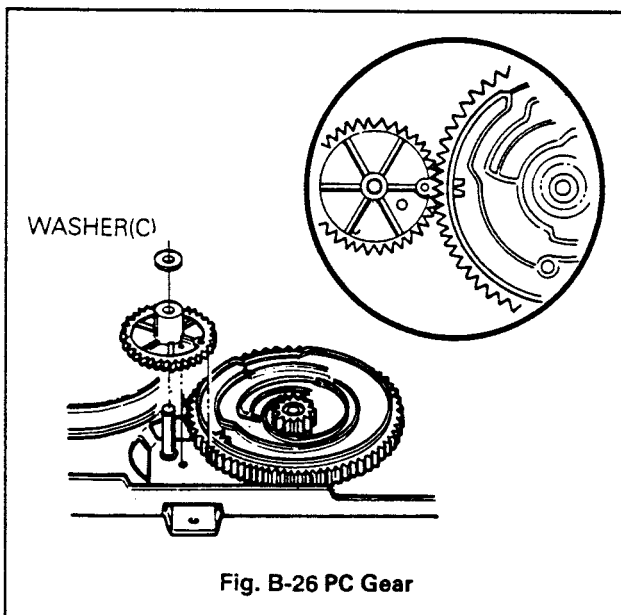
27. P2 and P3 Slant Assembly (Fig. B-27)

1) After finishing the disassembly of Drum Assembly, remove the P2 and P3 Slant Assembly by turning the Loading Gear(R) in the clockwise direction.(Loading direction)
2) Loosen the set screws.
3) Remove the Roller Guide from the Slant Base.

Fig. B-27 Slant Assembly
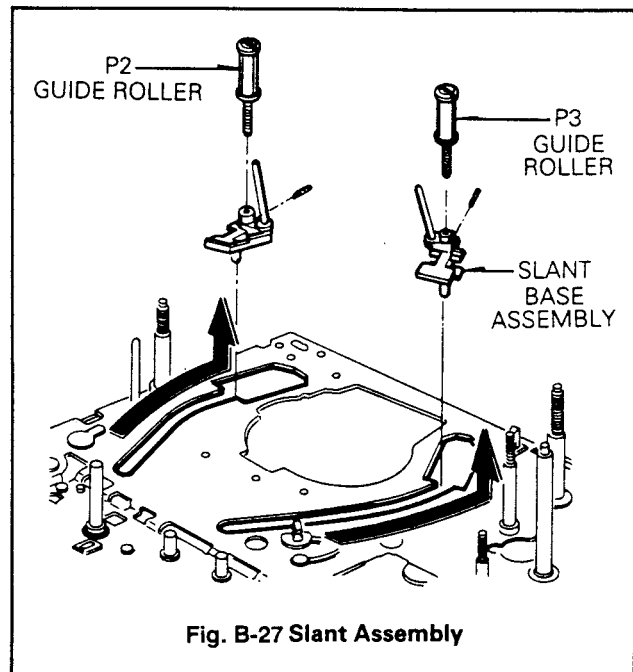
* NOTE

1) When disassembling and reassembling
① Use a Hexagonal wrehch to remove set screw.
② Take notice that the P2 and P3 Slant Assembly should not be changed from their original place.

28. Loading Gear Assembly(L),(R) (Fig. B-28)

1) Remove the Cam Gear, Rack-T.
2) Remove the P2 and P3 Slant Assembly by turning the Loading Gear(L),(R) in the Loading direction
3) Lift up the Loading Gear Assembly(L),(R) from the Deck Mechanism Assembly.
4) Remove the Spring Load(L),(R).
5) Separate the Loading Gear(L), (R) from Lever Load(L),(R).

* NOTE

1) When reassembling
① Make sure that the Loading Gear(L) and (R) should not be changed from their original place.
② Align the groove of Loading Gear(L),(O) with the groove of Gear(R),(O).

Fig. B-28 Loading Gear Assembly
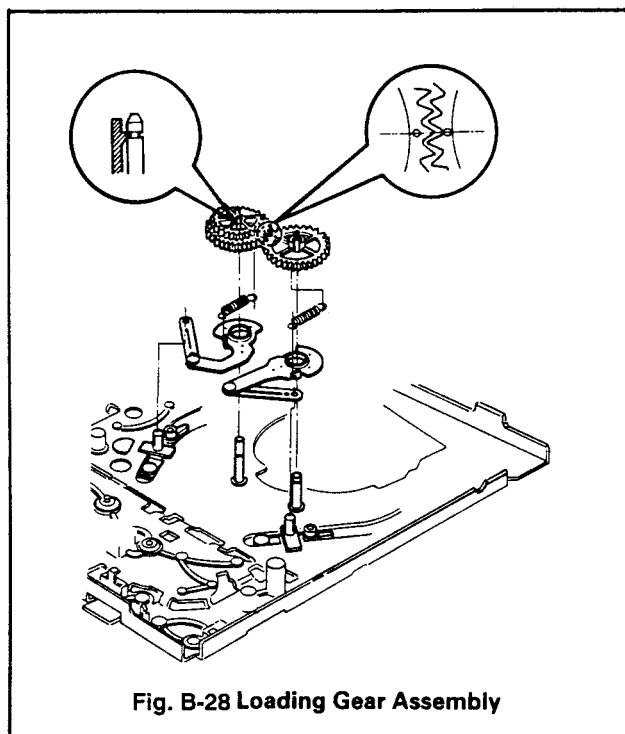
29. Tension Lever Assembly (Fig. B-29)

1) Remove the Function Plate.
2) Remove the Tension Lever Assembly by pushing hooks inward.

* NOTE

1) When reassembling
① Set the part(A) of Tension Lever Assembly in the groove of Lower part of Function Plate.
② After reinstalling the Tension Lever Assembly, adjust the Tension Post and the Tension with a Tension Cassette.

30. Clutch Gear Assembly (Fig. B-30)

1) Remove the Pulley Gear.
2) Remove the Plate Function.
3) Remove the washer(A), and then remove the Clutch Gear Assembly.
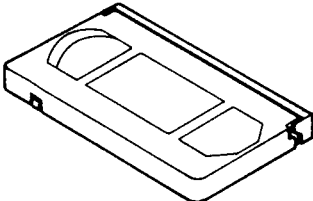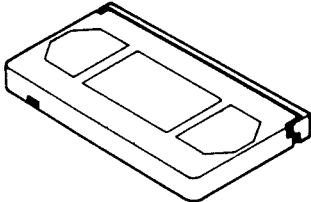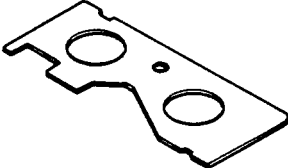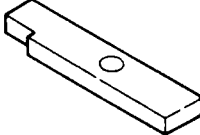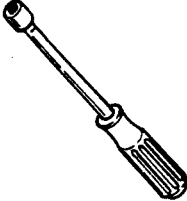
* NOTE

1) When reassembling
① Do not disassemble the Clutch Gear Assembly any futher, because Torque adjustment is not adjustible.

Fig. B-30 Gear Clutch Assembly

Fig. B-29 Tension Lever Assembly
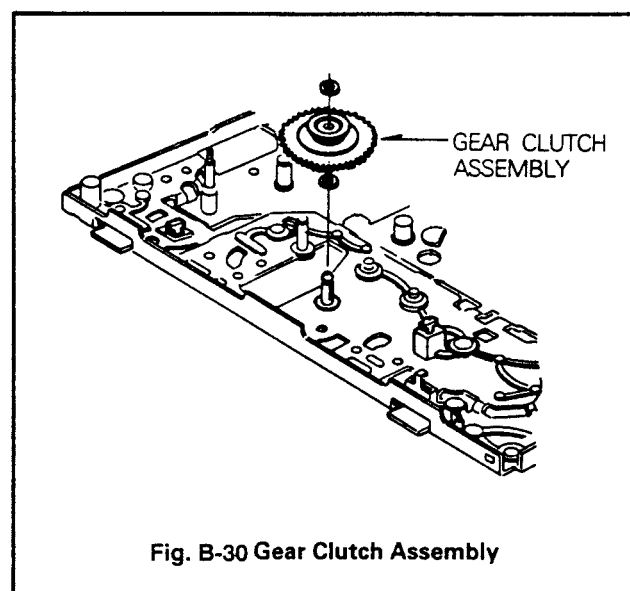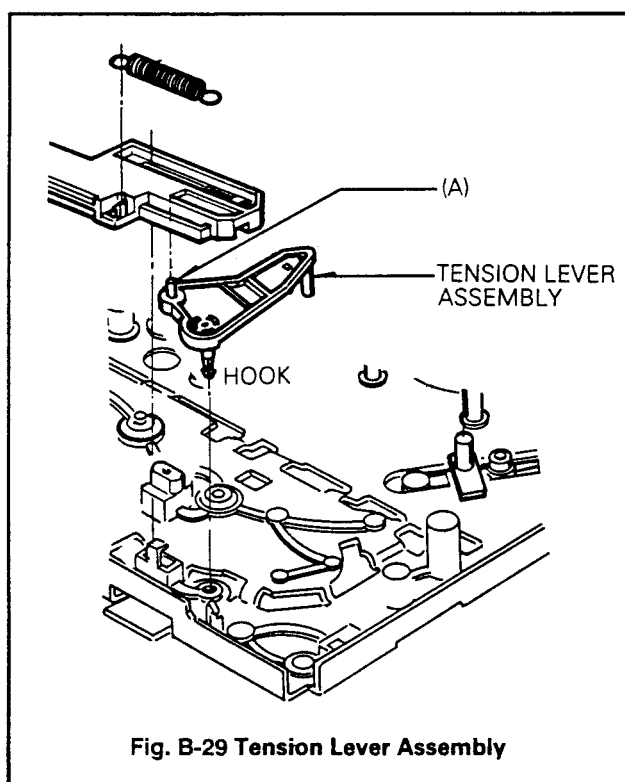
MECHANISM ADJUSTMENTS

• Tools and Fixtures for Deck

1. Back tension meter Parts No ; D00-D006	2. NTSC alignment tape Parts No NTSC ; DTN-0001 PAL ; DTN-0002	3. Master plane Parts No ; RJ10028
4. Torque gauge Parts No ; D00-D002	5. Torque gauge adaptor Parts No ; D09-R001	6. Reel table height fixture Parts No ; RJ10027
7. Post height adjusting driver Parts No ; DTL-0005	8. M3 Nut driver Parts No ; DTL-0006	

1. Mechanism State Switch (Mode Switch) Check

Purpose: To detect accurately the mechanism state and prevent the mechanism from malfunction.

Test Equipment/Fixture	VCR State	Check Point
● Blank tape	● Eject Mode (with cassette ejected)	● Mechanism state switch (Mode Switch and Cam)

Check Procedure

1) Turn the VCR on and eject the tape by pressing eject button.
2) Remove the Cabinet Top, the Main P.C.Board and the CST Housing. Then push the CST IN/OUT switch (Loca. #137) and eject button at the same time.
3) Turn the worm (Loca. #082) of Loading Motor Assembly (Loca. #A10) to the left side (counter-clockwise) to align the three holes (A) of the Pinch Gear, the P.C.Gear and the Chassis.

4) Remove the Bottom Cover and then check that the groove (V) and the hole (O) of Mode S/W are aligned each other. If the above alignment is not obtained, adjust as follows.
   (1) Remove the Bracket Assembly Bottom and the Capstan Belt in the state of power off.
   (2) Remove the P.C.B Assembly, align the groove (V) and the hole (O) of Mode S/W each other and then reassemble the P.C.B Assembly.
   (3) Turn the power on and perform the various operations to check that the loading and the unloading are correct.

Check Diagram

BOTTOM VIEW   **Fig. C-1-1**

JUNCTION P.C.B
MODE SWITCH
GROOVE
O HOLE

TOP VIEW   **Fig. C-1-2**

PINCH GEAR
P.C.GEAR
CHASSIS
THREE HOLES (A)
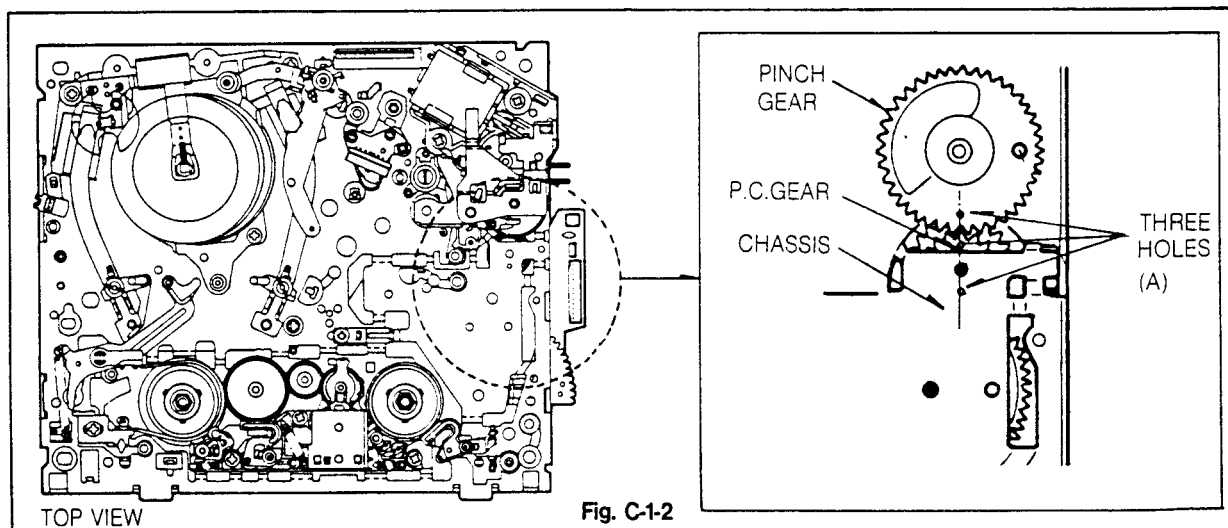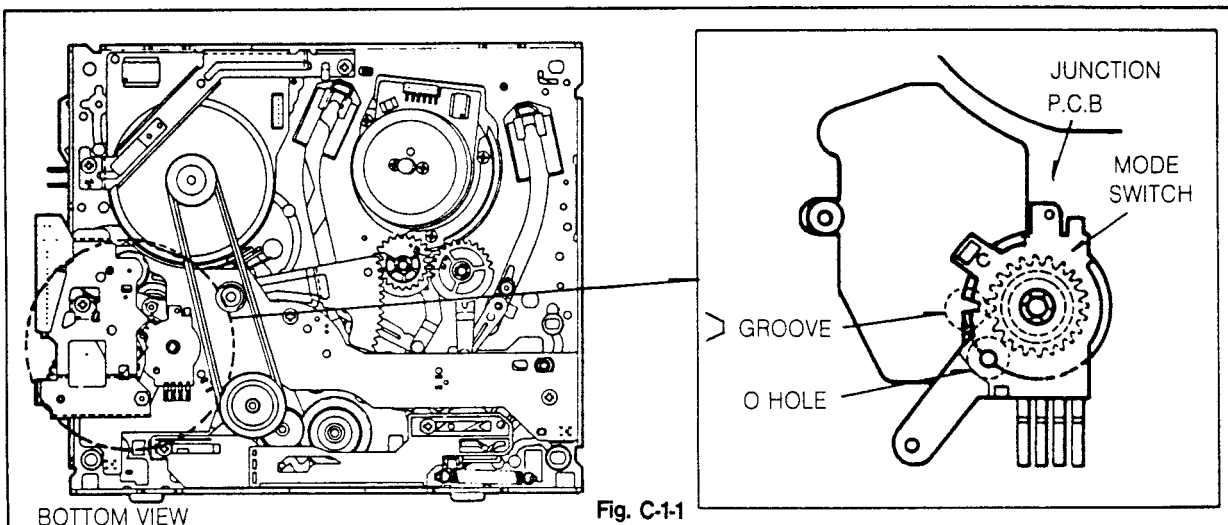
2. Preparation for Adjustment(To set VCR to the loading state without inserting a cassette)

1) Unplug the power cord from the AC outlet.
2) Remove the Cabinet Top and Front Loading mechanism.
3) Plug the power cord into the AC outlet.
4) Turn the VCR on and push the tact switch in the PCB Assembly.
   The VCR can accept input of each mode in this case. However the rewind and review operation cannot be performed for more than a few seconds because the take-up reel table is in the stop state and reel pulses cannot be detected.
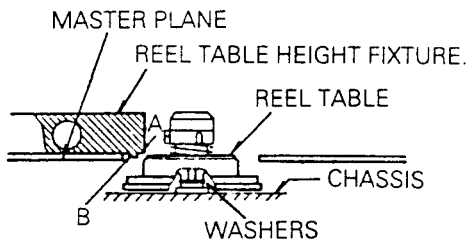
(NOTE)
Always return the VCR to the Front Loading Mechanism Assembling State in the following order after the above operations have been performed.
1) Press the Eject button after turning the power on.
2) Wait for about 10 seconds until searching out the assembly position.
3) Assemble the Front Loading Mechanism and connect the Front Loading Mechanism Connector.
4) Refer to the "Front Loading Mechanism Disassembly" which is described previously.

3. Reel Table Height Adjustment

Purpose: To set the reels of the cassette to the specified height, thus determine the height of tape.

Test Equipment/Fixture	Preparation for adjustment	VCR State	Adjustment Points
● Master Plane ● Reel Table Height Fixture	1) Remove the Front Loading Mechanism 2) Mount the Master Plane and place the Reel Table Height Fixture on it.		● Washer under the Supply and Take-Up Reel Tables.

Adjustment procedure

1) Check that the Reel Table is between sections A and B of the Reel Table Height Fixture.
2) If the table is not between sections A and B of the Fixture, replace the washers(two types, 0.3mm and 0.5mm thick) in the Reel Table or adjust them.

CAUTION
When the Tension Arm and Tension Band are removed, adjust the tension post position and tension after reinstalling them.

Adjustment Diagram

MASTER PLANE
REEL TABLE HEIGHT FIXTURE.
REEL TABLE
CHASSIS
WASHERS

SUPPLY AND TAKE-UP REEL TABLE

Fig. C-3

4. Tension Post Position and Tension Adjustment

Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized.

Test Equipment/Fixture	VCR State	Adjustment Point
● Tension Meter (Tension adjustment)	● Play without cassette and with a Tension Meter	● Holder Band(A)

Adjustment Procedures

⟨Position Adjustment⟩

1) Perform loading without inserting a tape and loosen the screw that attaches the Band Holder(B) to the D-Deck Mechanism Assembly.
2) Insert the (—)type driver between the Band Holder(B) and the "V" groove of the chassis.
3) Move the Band Holder(B) right and left and align the center of tension post with the center of P1.
4) Tighten the screw that attachs the Band Holder(B) to Deck Mechanism Assembly.

⟨Tension Adjustment⟩

1) Play the Tension Meter and read the Tension Meter:35g·cm±2.5g·cm(reference value).
2) If the result is abnormal.
   (1) over the standard:loosen the screw, move the Band Holder(B) right a little and then tighten the screw and make sure that this adjustment is correct.
   (2) below the standard:loosen the screw, move the Band Holder(B) left a little and then tighten the screw and make sure that this adjustment is correct.

CAUTION

The range of movement of Band Holder(B) should be within ±1.5mm while being adjusted.
If the range is over, you should recheck the Reel Brake, Tension Arm and Spring.

Adjustment Diagram
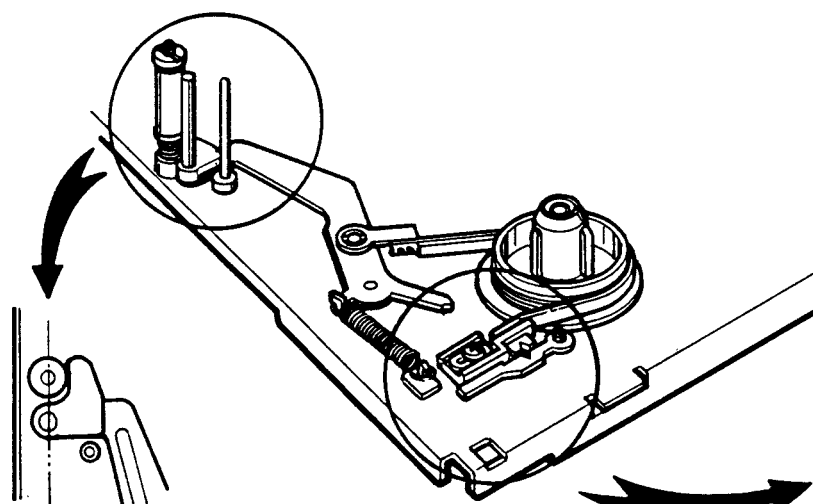
ALIGN THE CENTER OF P1 AND
TENSION POST

Fig. C-4-1

SCREW
"V" GROOVE
HOLDER BAND(B)
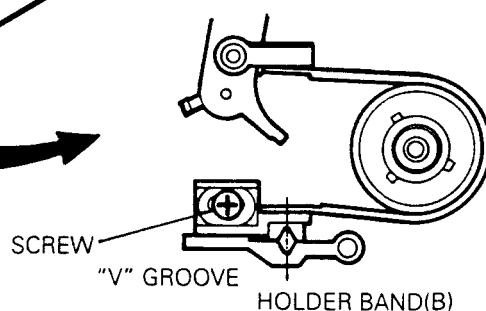
Fig. C-4-2
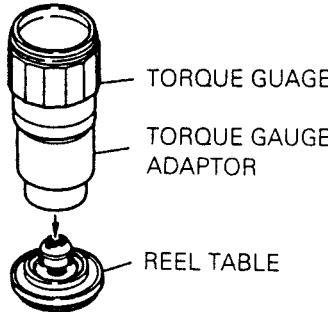
5. Checking Torque

Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape run smoothly and satisfy the basic performance of the VCR. Check these if the tape does not run smoothly or the tape speed is abnormal.

Test Equipment/Fixture	VCR state
● Torque Gauge ● Torque Gauge Adaptor	● Set the VCR to each operation mode without inserting a cassette. (See '2 Preparation for Adjustment')

Item	VCR Operation mode	Measurement Reel	Measurement Values
Main brake torque.	Eject	Supply and take-up reels	600g.cm or more
Slack removal torque	Unloading(power off)	Supply reel	110~200g·cm
Fast forward torque	Fast forward	Take-up reel	400g·cm or more
Rewind torque	Rewind	Supply reel	400g·cm or more
Play take-up torque	Play	Take-Up reel	90~130g·cm

Checking Method

The values are measured by using a torque gauge and torque gauge adaptor with the torque gauge fixed.

Note: This value is measured when the VCR is shifted in the unloading direction from the fast forward or rewind mode and quick braking is applied to both Reel Tables.
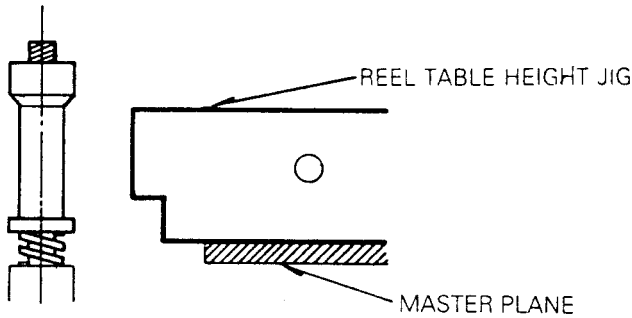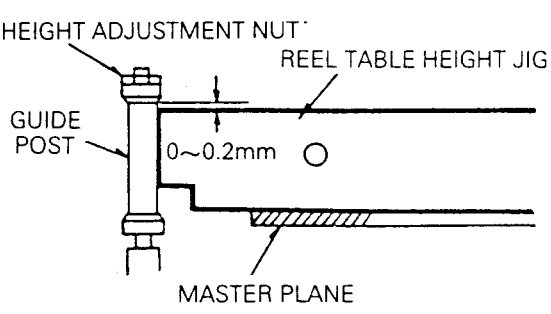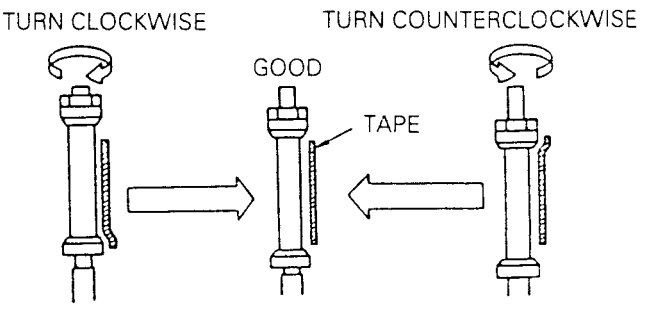
TORQUE GUAGE

TORQUE GAUGE ADAPTOR

REEL TABLE

Fig. C-5
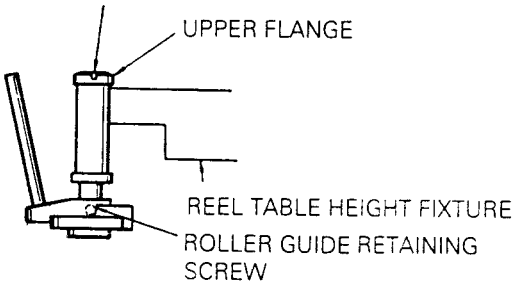
6. Guide Post Height Adjustment

Purpose: To control tape height

Test Equipment/Fixture	VCR State	Adjustment Point
● Master Plane ● Blank Tape ● Reel Table Height Jig ● Post Height Adjusting Driver ● M3 Nut Driver	● Mount the Master Plane and place the Reel Table Height Jig on it.	● Nuts on Impedance Roller ● Guide Post

1) Set the clearance between the bottom of the P1 Roller Flange and under cut of Reel Table Height Fixture to 0~0.1mm(Fig. C-6-1).
2) Set the clearance between the bottom of the Guide Post upper flange and top of the Reel Table Height Jig to 0~0.2mm(Fig. C-6-2).
3) Load and run the Tape and check that the tape does not ride over the upper and lower flanges of the guide post.

4) If the tape rides over either flange, adjust the height of P1 Roller and Guide Post as follows(Fig. C-6-3).
   • If the tape rides over the upper flange, turn the nut counterclockwise.
   • If the tape rides over the lower flange, turn the nut clockwise.

Adjustment Diagrams

REEL TABLE HEIGHT JIG

MASTER PLANE

Fig. C-6-1

HEIGHT ADJUSTMENT NUT
REEL TABLE HEIGHT JIG
GUIDE POST
0~0.2mm
MASTER PLANE

Fig. C-6-2

TURN CLOCKWISE   TURN COUNTERCLOCKWISE
GOOD
TAPE

Fig. C-6-3

7. Guide Roller Height Adjustment

Purpose: To regulate the height of tape so that the bottom of tape runs along the tape guide line on the lower drum.

A. Coarse Adjustment

Test Equipment/Fixture	VCR State	Adjustment Point
● Master Plane ● Reel Table Height Fixture ● Hexagonal Wrench ● Post Height Adjusting Driver	● Mount the Master Plane and place the Reel Table Height Fixture on it.	● Roller Guide Height Adjustment Screws on the Supply and Take-Up. Guide Rollers.

Adjustment Procedure

1) Align the bottom of the Guide Roller's upper flange and the top of the Reel Table Height Fixture.
2) Perform the precise adjustment next.
3) When the Guide Roller is damaged, release the Guide Roller retaining screw and then replace the Guide Roller.

Adjustment Diagram

ROLLER GUIDE HEIGHT ADJUSTMENT SCREW

UPPER FLANGE

REEL TABLE HEIGHT FIXTURE

ROLLER GUIDE RETAINING SCREW

Fig. C-7-1

B. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	VCR State	Adjustment Point
● Oscilloscope ● Post Height Adjusting Driver ● Alignment Tape ● Hexagonal wrench	● CH-1:PB RF Envelope ● CH-2:SW 3–Hz ● Head Switching Output Point ● RF Envelope Output Point	● Play an alignment tape	● Guide Roller Height Adjustment Screws.

Adjustment Procedure

1) Play an alignment tape after connecting the probe of the oscilloscope to RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking control(in PB mode):Center position(When this adjustment is performed after the drum assembly has been replaced, set the tracking control so that the RF output is maximum.)
3) Height adjustment screw:Flatten the RF waveform.
4) Turn(Move) the tracking control(playback) clockwise and counterclockwise.(to the right and left)
5) Check that the drops of RF output are uniform at the start and end.

Waveform Diagrams

Trun the Roller Guide Height Adjustment Screw slightly to flatten the waveform.
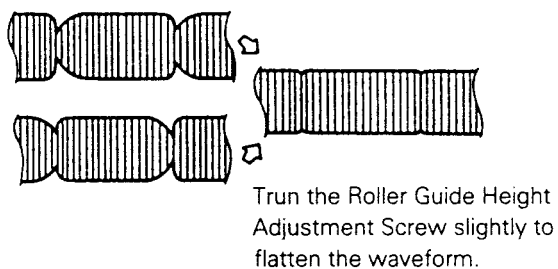
Fig. C-7-2

Tracking control at center   Turn(Move) the tracking control to both directions.

Fig. C-7-3

Connection Diagram

OSCILLOSCOPE

CH-1   CH-2

RF Switching ——— Output Test Point

Head Switching ——— Output Test Point
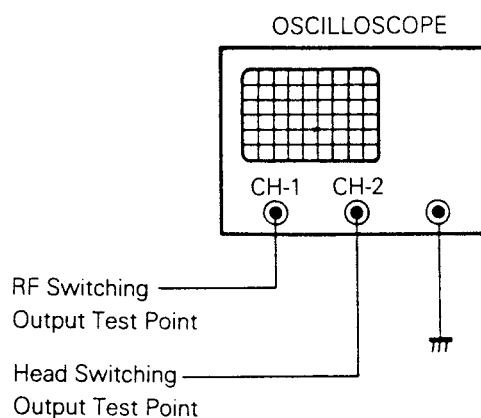
8. Audio/Control(A/C) Head Adjustment

Purpose: To keep the contact between the tape and head so that the specificed track is recorded and played back.

A. Coarse Adjustment

Test Equipment/Fixture	VCR State	Adjustment Points
● Master Plane ● Reel Table Height Fixture ● M3 Nut Driver	● Mount the Mater Plane and place the Reel Table Height Fixture on it.	● Special screw ● Cone Point Screw for tilt ● Azimuth Adjustment Screw
● Blank tape	● Run the blank tape	● A/C Head Adjuster

Adjustment procedure/Adjustment Diagram

1) Tighten the spring section of the special screw so that it protrudes 6.4mm(approx.) over the top of Head Base(1).
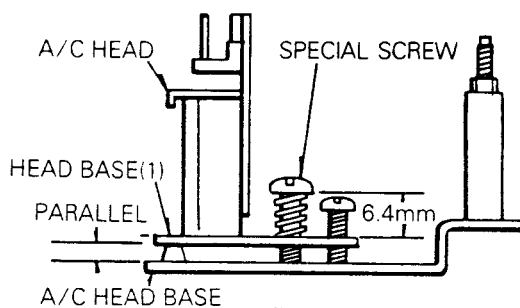
Fig. C-8-1

2) Turn the Azimuth Adjustment Screw and Cone Point Screw so that the Head Base(1) and A/C Head Base are parallel.
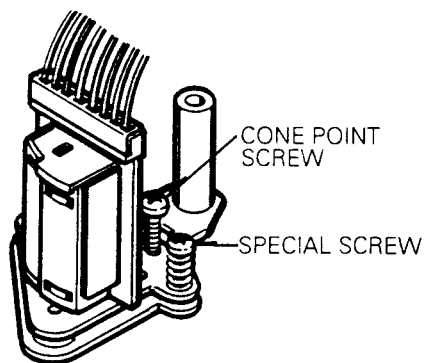
Fig. C-8-2

3) Turn the A/C Head Adjuster until the clearance between the Master Plane and Head Base(1) is approx 1.2mm.
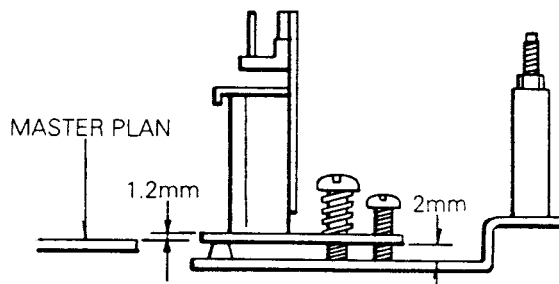
Fig. C-8-3

4) Remove the adjustment fixture, load a blank tape and set the VCR to the play mode.

5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the Cone Point Screw, Azimuth Adjustment Screw and A/C Head Adjuster. When the bottom edge of tape is 0.20~0.25mm from the bottom edge of the control head's core, the height of A/C head is ideal.
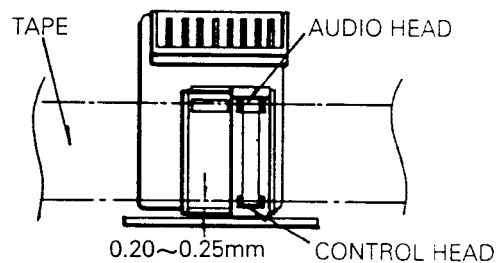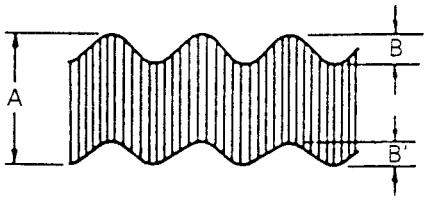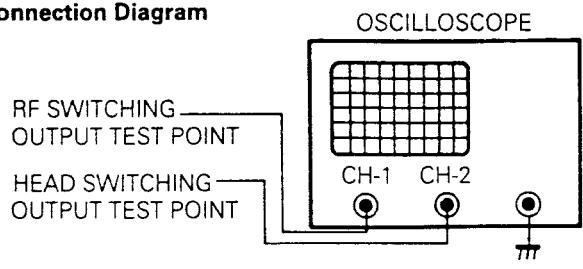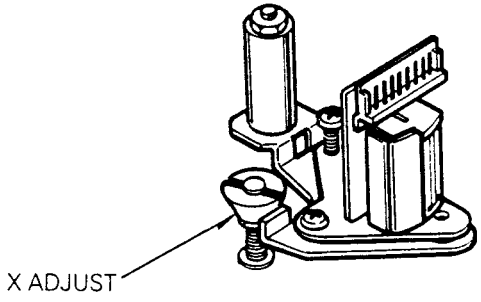
Fig. C-8-4

6) Perform the precise adjustment continuously.
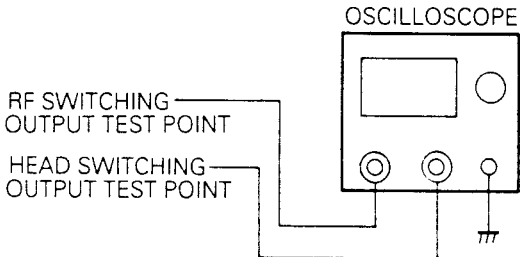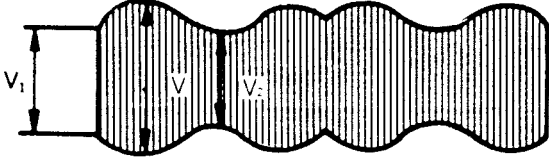
B. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Point	VCR State	Adjustment Points
● Oscilloscope	● Audio output jack	● Play an alignment tape 1KHz, 7KHz sections	● Azimuth Adjustment Screw
● Alignment tapes ● M3 Nut Driver			● A/C Head adjuster ● Cone point screw

Adjustment Procedure	Waveform Diagram
1) Connect the probe of oscilloscope to audio output jack. 2) Adjust the Azimuth Adjustment Screw, A/C Head adjuster and cone point screw slightly and alternately so that a Audio 1KHz output is maximum and flat.(minimum fluction) 3) Adjust the Azimuth Adjustment Screw slightly and alternately so that the Audio 7KHz output is maximum.	 A:Maximum BB':Minimum **Fig. C-8-5**

9. X-Value Adjustment

Purpose: To obtain compatibility with other VCRs.			
Test Equipment/Jigs	**Test Equipment Connection Points**	**VCR State**	**Adjustment Points**
● Oscilloscope ● Alignment tapes ● Post Height Adjusting Driver	● CH-1:PB RF Envelope ● CH-2:SW 30Hz ● Head Switching Output Test Point ● RF Envelope Output Test Point	● Play an alignment tape	● X Adjust

Connection Diagram	Adjustment Procedure
OSCILLOSCOPE RF SWITCHING OUTPUT TEST POINT HEAD SWITCHING OUTPUT TEST POINT CH-1 CH-2 1) Insert a cassette tape, and then "AUTO TRACKING" will be displayed on the Digitron, then push the Tracking ⊕ or ⊖ Keys one time as soon as possible to make the VCR release the Auto Tracking. 2) Turn the Adjust X to the maximum RF Envelope level when the VCR is free from the Auto tracking. 3) If RF envelope output is maximized from the center click position in right direction(clockwise), set the tracking control to the center and turn the X Adjust counterclockwise. 4) If in left direction(counterclockwise), turn it clockwise by same method. 5) In case of the 30 μ m, head will trace over a 60 μ m width track, readjust it so that RF Envelope output begins falling at the same angle when tracking control is turned either left or right.	 X ADJUST **Fig. C-9**

10. Adjustment after Replacing Drum Assembly(Video Heads)

Purpose: To suppress drift in the height relative to the Guide Roller and drift of the X Value after replacing the drum.			
Test Equipment/Fixture	**Test Equipment Connection Points**	**VCR State**	**Adjustment Points**
● Oscilloscope ● Post Height Adjusting Driver ● Alignment tape ● Blank tape ● M3 Nut Driver	Checking the flatness ● CH-1:PB RF Envelope ● CH-2:SW 30Hz ● Head Switching Output Point ● RF Envelope Output Point	● Run the blank tape ● Play an alignment tape	● Guide Rollers Precise Adjustment ● Switching point ● Tracking point ● X-Value

Connection Diagram

OSCILLOSCOPE

RF SWITCHING
OUTPUT TEST POINT

HEAD SWITCHING
OUTPUT TEST POINT

Checking/Adjustment Procedure

1) Run the blank tape, check and adjust whether the Roller Guide is curling or creasing tape around the Roller Guide.
2) Check the RF envelope output flatness and adjust the Roller Guide Height while playing an alignment tape.
3) Adjust the head switching point.
4) Check that RF envelope output is maximum when the tracking is at the center click position.
5) Adjust the Tracking Preset and X-Value Adjust with X Adjust.

Waveform Diagram

V_1

V_1/V MAX $\geqslant 0.7$
V_2/V MAX $\geqslant 0.8$
RF ENVELOPE OUTPUT

Fig. C-10

11. Maintenance/Inspection Procedure

(1) Required Maintenance

The recording density of a VCR is much higher than that of an audio tape recorder. VCR components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, are necessary.

(2) Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR, and the environment in which the VCR is used.

But, in general home use, a good picture will be maintained if the inspection and maintenance is made every 1,000hours. The table below shows the relation between time used and inspection period.

Table 1

When inspection is necessary / Average hours used per day	About 1 year ▼	About 18 months ▼	About 3 years ▼
One hour	/////////////////		
Two hours	/////////		
Three hours	/////		

(3) Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.

Check with the customer to find out how often the unit is used, and then determine that the unit is ready for in spection and maintenance. Check the following parts.

Table 2

Phenomenon	Inspection
Poor S/N, no color	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pressure roller, belt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Color beats	Dirt on full-erase head
Low volume or sound distorted	Dirt on audio/control head
Fast forward or rewind is not done or rotation is slow	Dirt on belt

(4) Supplies Required for Inspection and Maintenance

(1) Greases Kanto G-31(or equivalent)
(2) Alcohol(or freon)
(3) Cleaning Patches

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head

First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with alcohol or freon to the point indicated. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.

(Do not move the cleaning patch vertically and make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)

Thoroughly dry the head. Then run test tape. If alcohol or freon remains on the video head, the tape may be damaged when it comes into contact with the head surface.

(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with alcohol of freon.

Note:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which move the tape.

② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no force is applied to the system that would cause deforming.

Video head (rotating cylinder)

Coat with alcohol(or freon)

Touch the section of cleaning patch to the head tip and gently turn the head

Head tip
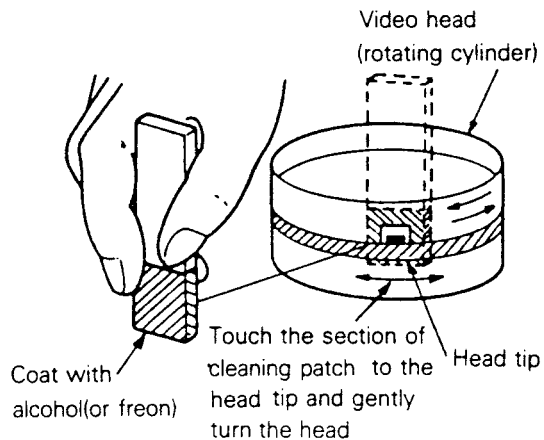
Fig. C-11-1

5-2) Greasing

(1) Greasing guidelines

Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport of drive system. Wipe any excess and clean with cleaning patch wetted in alcohol or freon.

(2) Periodic greasing

Grease specified locations every 5,000hours.

GUIDE ROLLER(SUPPLY)

VIDEO HEAD(UPPER-DRUM)
FULL ERASE HEAD
IMP ROLLER
TENSION POST

GUIDE ROLLER(TAKE-UP)

AUDIO CONTROL HEAD

PINCH ROLLER
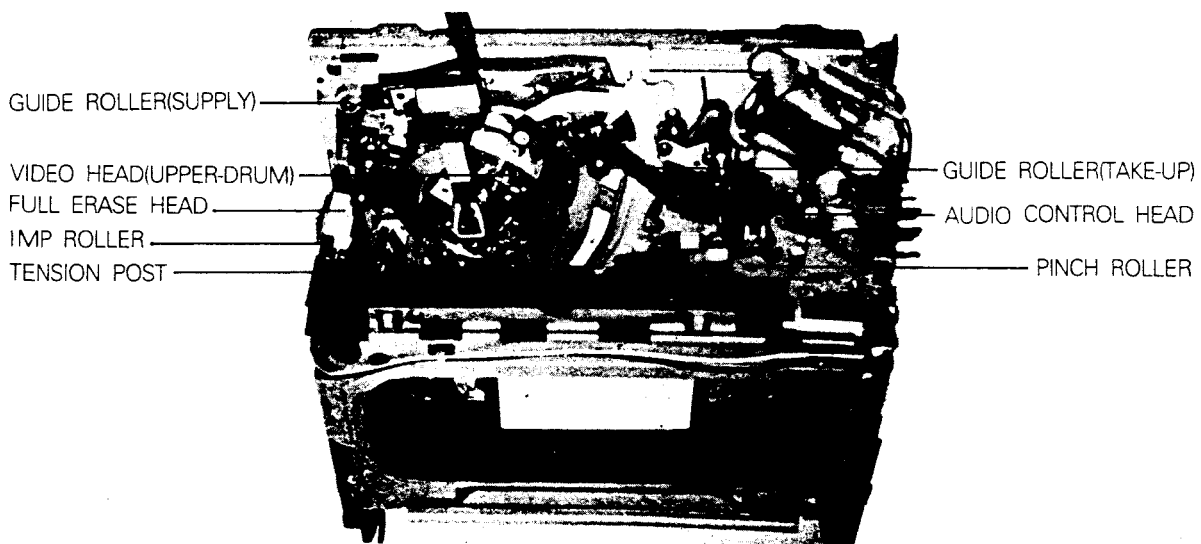
Fig. C-11-2   Tape Transport System

Phenomenon	Inspection	Replacement	
Color beats	Dirt on full-erase head	○	→ ①
Poor S/N no color	Dirt on video head	○	→ ②
Vertical jitter	Dirt on video head	○	→ ③
	Dirt in tape transport system		
Low volume, Sound distorted	Dirt on audio/control head	○	→ ④
Tape does not run. Tape is slack	Dirt on pinch roller	○	→ ⑤
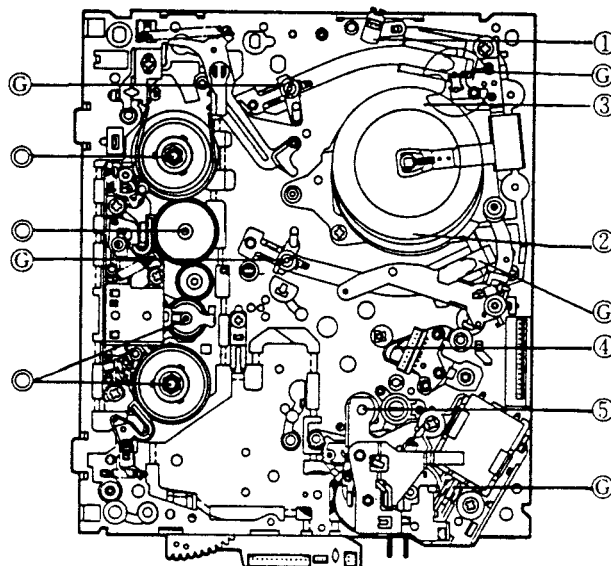
Fig. A-12 Top View of Mechanism

Phenomenon	Inspection Location	Replacement	
Do not fast forward or rewind, or rotation is slow	Dirt on reel belt	○	→ ⑥
Tape does not run			
Slack tape			
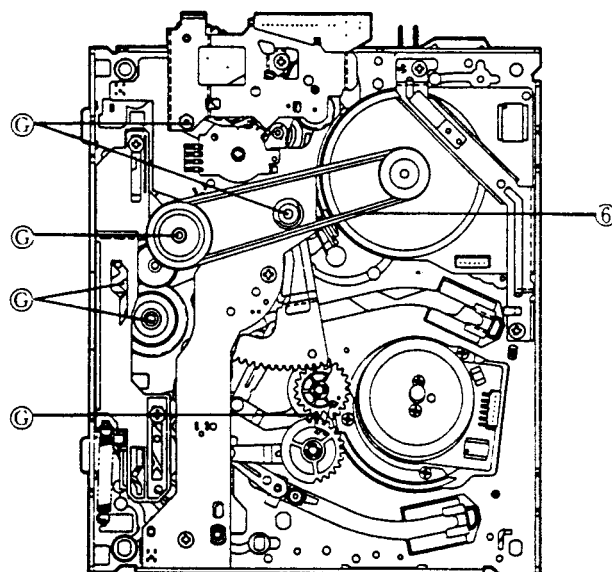
Fig. A-13 Bottom View of Mechanism

Ⓖ:Grease

Note: If locations marked with ○ do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

MECHANISM TROUBLESHOOTING GUIDE

1. Deck Mechanism

A.

```
┌─────────────────────────────────────┐
│         Auto REW doesn't work.       │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│       Is the output of End Sensor    │
│       of supply side 0~3V?           │
└─────────────────────────────────────┘
        YES  │        │ NO
```

┌─────────────────────────────────────┐   ┌─────────────────────────────────────┐
│   Is the LED of Junction P.C.B   │   │   Replace the Front Loading Mechanism │
│   Assembly normal?   │   │   P.C.B(L) Assembly.   │
└─────────────────────────────────────┘   └─────────────────────────────────────┘
        NO │   │ YES

┌─────────────────────────────────────┐   ┌─────────────────────────────────────┐
│   Is the 5V applied to the Junction │   │   Replace the Front Loading Mechanism. │
│   P.C.B Assembly.   │   │   │
└─────────────────────────────────────┘   └─────────────────────────────────────┘
        YES │   │ NO

┌─────────────────────────────────────┐   ┌─────────────────────────────────────┐
│   Replace the Junction P.C.B Assembly. │   │   Check the power or syscon P.C.B.   │
└─────────────────────────────────────┘   └─────────────────────────────────────┘

B.

```
In Play Mode, it is impossible
to wind the Tape.
```

```
Is the Mode Switch "III"
In Play Mode?
```
YES | **NO**

```
Does the Capstan Motor turn?
```
YES | **NO**

```
Check the position of Mode Switch
on the Junction P.C.B Assemby.
```

```
Does the Take-Up Reel
Assembly turn?
```
YES | **NO**

```
Check Servo part.
```

```
Is the Capstan Belt okay?
```
NO

```
Does the washer exist under
the Take-up Reel Assembly?
```
NO

```
Replace the Belt.
```

```
Is the Reel Torque Level within the
specifications?
```
YES | **NO**

```
Check the under part of Take-up
Reel Assembly and remove any
foreign substance.
```

```
Replace the washer.
```

```
Check the Head Auto Stop
or Reel Auto stop function.
```

```
Check the Clutch Bracket
Assembly.
```

4-36

C.

```
┌─────────────────────────────────┐
│      FF/REW doesn't work.       │
└─────────────────────────────────┘
                │
┌─────────────────────────────────┐
│  Does the Loading Motor enter   │
│  FF/REW mode when it runs?      │
└─────────────────────────────────┘
     YES            NO
                │
┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│    Does Function Plate move?    │     │ Check the position of Mode Switch in │
│                                 │     │ the Junction P.C.B Assembly.    │
└─────────────────────────────────┘     └─────────────────────────────────┘
     YES            NO
                                        ┌─────────────────────────────────┐
                                        │  Check the Loading Motor Assembly. │
                │ NO                     └─────────────────────────────────┘

                                        ┌─────────────────────────────────┐
                                        │ Check if gears of Bottom Bracket Assembly │
                                        │ spin, and check rectangular state of │
                                        │ gears in the Bottom Bracket Assembly. │
                                        └─────────────────────────────────┘

┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│ Is the Main Brake(Supply side, T/Up │   │   Check if the Cam Gear is broken. │
│ side) open?                     │     │                                 │
└─────────────────────────────────┘     └─────────────────────────────────┘
     YES            NO
                                        ┌─────────────────────────────────┐
                                        │ Check whether the Pin of Brake is broken. │
                                        └─────────────────────────────────┘

┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│ Is the Spring for Main Brake defective? │ │ Replace the Brake if it is damaged. │
└─────────────────────────────────┘     └─────────────────────────────────┘
     NO            YES

┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│   Does the Capstan Motor spin?  │     │       Replace the Spring.       │
└─────────────────────────────────┘     └─────────────────────────────────┘
     YES            NO

┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│        Is the Belt Okay?        │     │      Check the Servo circuit.   │
└─────────────────────────────────┘     └─────────────────────────────────┘
     YES            NO

┌─────────────────────────────────┐     ┌─────────────────────────────────┐
│ Is the Reel Torque satisfied with the │ │        Replace the Belt.        │
│ specifications of FF/REW mode?  │     │                                 │
└─────────────────────────────────┘     └─────────────────────────────────┘
                │ NO
                                        ┌─────────────────────────────────┐
                                        │ Replace the Bracket F.R Assembly. │
                                        └─────────────────────────────────┘
```

D.

```
┌─────────────────────────────────────┐
│  The Tape loading is impossible.     │
└─────────────────────────────────────┘
```

```
┌─────────────────────────────────────┐
│  Is the Cassette Tape properly inserted?  │
└─────────────────────────────────────┘
```
YES | **NO** → Refer to "Cassette Loading is impossible"

```
┌─────────────────────────────────────┐
│  Is the assembling position of the Front  │
│  Loading Mechanism  correct?         │
└─────────────────────────────────────┘
```
YES | **NO** → Reassemble the Front Loading Mechanism.

```
┌─────────────────────────────────────┐
│  Are the assembling conditions of Cam     │
│  Mode and Gear Rack T/FL correct?    │
└─────────────────────────────────────┘
```
YES | **NO** → Reassemble the Cam Mode, Gear Rack F/R.

```
┌─────────────────────────────────────┐
│  Are the assembling conditions of Rack    │
│  T Gear and Loading Gear correct?    │
└─────────────────────────────────────┘
```
NO | **YES** → Reassemble the Rack-T and Gear Loading.

```
┌─────────────────────────────────────┐
│  1. Does the Gear Loading Assembly(L),(R) spin │
│     smoothly?                        │
│  2. Confirm whether the Loading Gear(L), (R) is │
│     contact with other parts during operation. │
└─────────────────────────────────────┘
```
YES | **NO** → Replace the Loading Gear Assembly.

```
┌─────────────────────────────────────┐
│  Check that the T/Up Arm is fixed by │
│  stopper when the pinch Gear is Lower │
│  down.                               │
└─────────────────────────────────────┘
```
YES | **NO** → Reassemble the T/Up Arm and Lever T/UP.

```
┌─────────────────────────────────────┐
│  Is the Idler Gear  separated from the │
│  Supply Reel?(Confirm whether the    │
│  Capstan Motor turns or not)         │
└─────────────────────────────────────┘
```
NO

```
┌─────────────────────────────────────┐
│  1. Confirm the conditions of Clutch │
│     Bracket ASS'Y and Reel Belt.     │
│  2. Replace the Capstan Motor.       │
└─────────────────────────────────────┘
```

2. Front Loading Mechanism

A.

Cassette Loading is impossible.

↓

Does Lever switch work normally?

YES | **NO**

Is 5V applied to the Vcc of Junction PCB assembly. — **NO** → Is the switch spring damaged or omitted?

YES (left: **NO**)

Is 5V applied to the CST switch Terminal of connector.

YES | **NO**

Check the Syscon part.

YES (from switch spring question):
Replace or add the switch spring.

Replace the CST switch.

B.

The Tape ejecting is impossible.

↓

Is the Rack Gear N.D assembled correctly?

YES | **NO** → Reassemble the Rack Gear N.D.

Is the Rack Gear F.L assembled correctly?

YES | **NO** → Reassemble the Rack Gear F.L.

Does the Door Opener work?

YES | **NO** → Replace the Door Opener.

Does the Cushion Spring work?

NO

Replace the Cushion Spring.

C.

Tape doesn't move safety.

↓

Is the CST Loading normal.

YES | **NO** → Check the CST Loading Mechanism.

Does the opener and Lid spring work?

YES | **NO** → Replace the opener and Lid Spring.

Does CST Opener work?

YES | **NO** → Replace the CST Opener.

Is the Rack Gear N.D assembled correctly ?

YES | **NO** → Reassemble the Rack Gear N.D.

Is the Rack Gear F.L assembled correctly ?

YES | **NO** → Reassemble the Rack Gear F.L.

Does the Cushion spring exist?

YES | **NO** → Reassemble Cushion Spring.

Does the Carrier Bracket Assembly move with the Gear(L),(R).

YES | **NO** → Reassemble the Carrier Bracket Assembly.

Replace the Front Loading Mechanism Assembly.

EXPLODED VIEW

1. Moving Mechanism Section(I)

2. Moving Mechanism Section(II)

3. Front Loading Mechanism Section

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
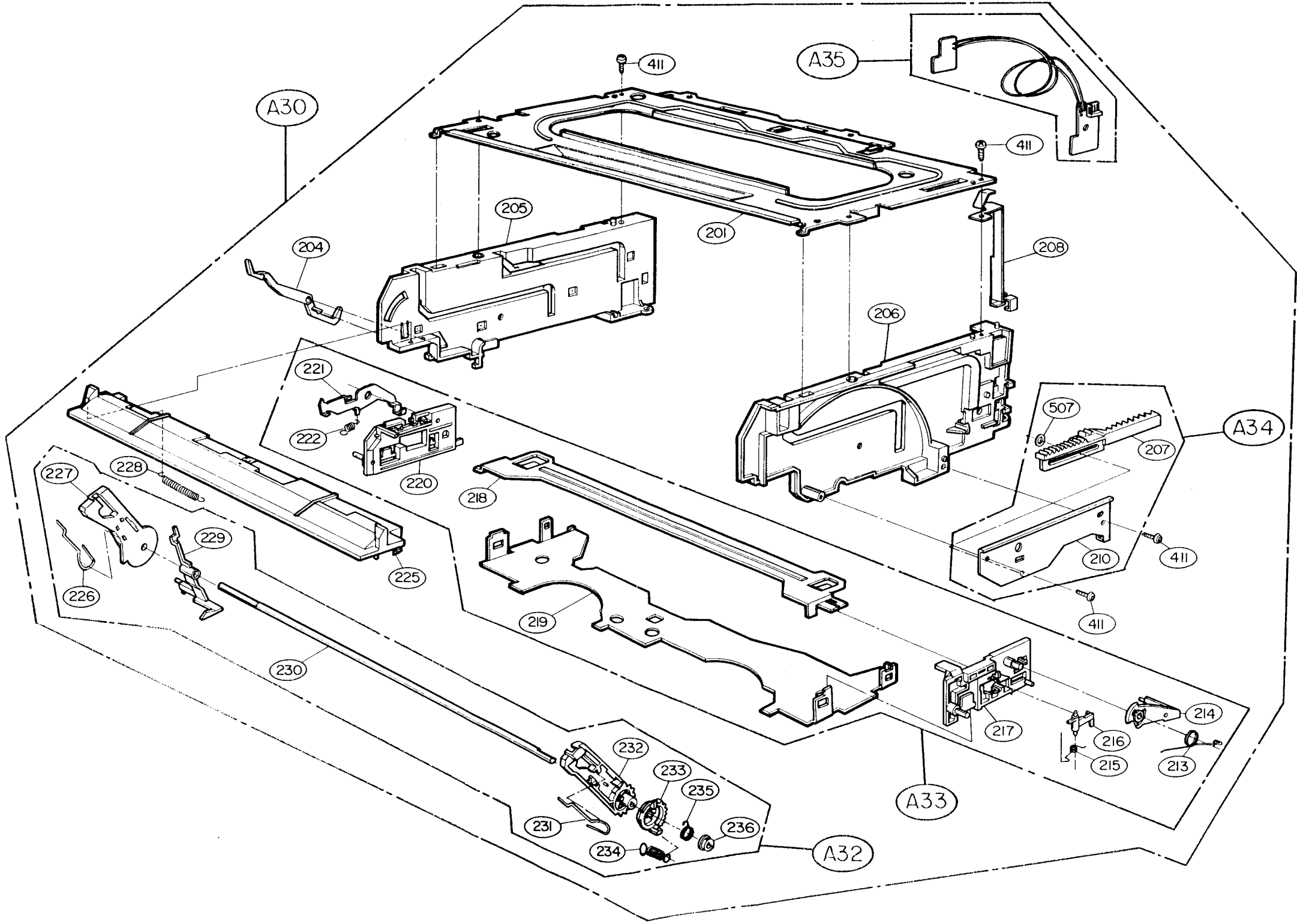
SECTION 4-2. 8 mm DECK MECHANISM

PERIODICAL CHECK AND MAINTENANCE

For the normal operation and the protection of Tape, the periodical checking and maintaining is required like the unit.
Perform the following steps after the adjustment without the used time.

1. ROTARY DRUM ASSEMBLY CLEANING

Stick the smooth swab moistened with the cleaning water fast to the rotary Drum Slightly, and then rotate the Rotary Upper Drum with a finger to the counter-clockwise slowly.

NOTE :
Be careful so the Motor is not to rotate the Drum and not to rotate to the clockwise. Do not use the swab moistened with the cleaning water to the Head Vertically.

2. TAPE LOADING COURSE CLEANING

Set the Cassette Compartment to the Eject State or remove it, and then wipe the Tape loading Course (No. 1 Guide~No. 7 Guide Capstan Shaft, Pinch Roller) with the Chamois Leather Moistened in cleaning water.

3. DRIVE SYSTEM CLEANING

Wipe the Drive System (Timing Belt, Surface of Reel Table etc.) with the Chamois Leather moistened in cleaning water.
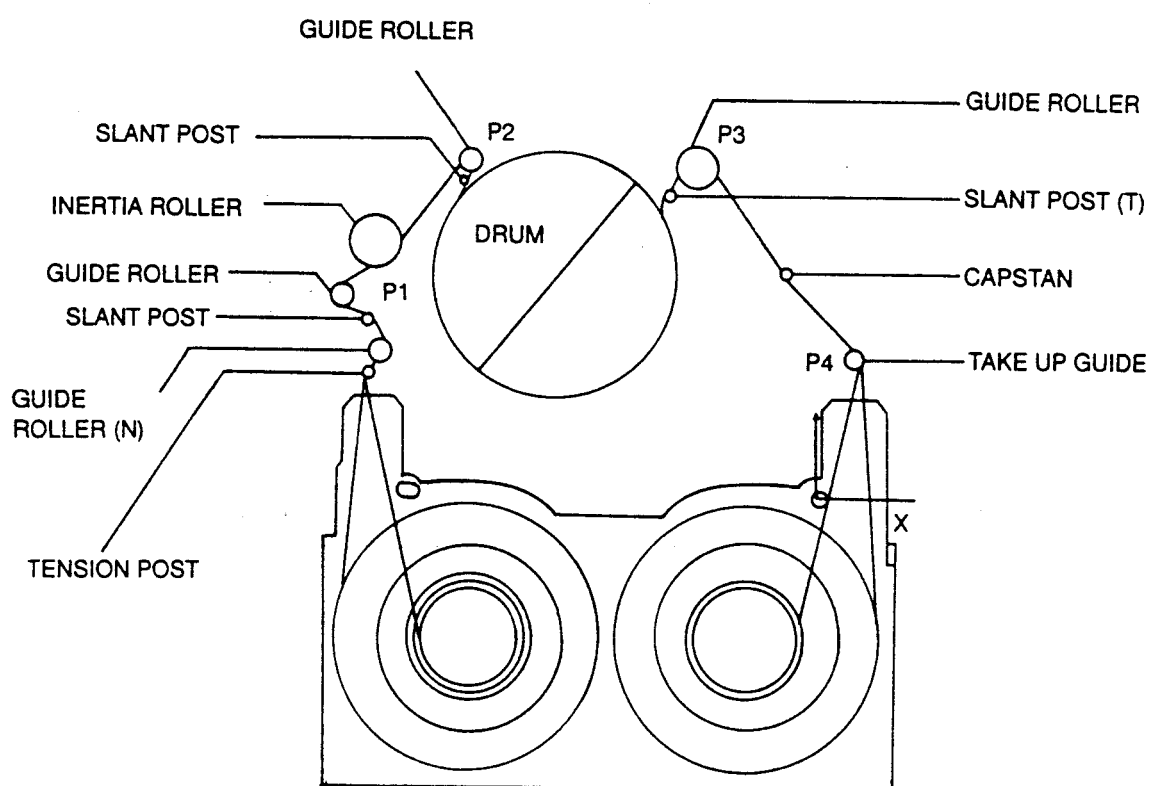
Fig. 4-1-1

4. MAINTENANCE TIME TABLE

○ Cleaning ◎Oiling ☆Checking

Check Parts		Time (Hours) (H)										Remarks
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Cleaning and Demag-netizing	Tape path surfaces Cleaning	○	○	○	○	○	○	○	○	○	○	Be careful about oil
	Rotary drum assembly Cleaning and demagnetizing	○	○	○	○	○	○	○	○	○	○	Be careful about oil
Drive System	Relay belt	—	☆	—	☆	—	☆	—	☆	—	☆	Be careful about that the Oil do not drop on the surface of Tape Path
	Capstan shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Idler pulley axle	—	◎	—	◎	—	◎	—	◎	—	◎	
	Loading Motor	—	☆	—	☆	—	☆	—	☆	—	☆	
Perfor-mance Check	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Brake tension Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake system	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD, RVS torque Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

NOTE :
During checking the Unit, refer the Time Table above for the parts change etc.

Oiling :
- Use the regular Oil always.
  (If the unregular oil is used, the Unit may get demaged.)
- Apply the clean oil on the position used the shaft bearing.
- "Oil 1 drop" means the quantity of degree hanged to the end of 2mm Stick with diameter.
  (Refer to Fig. 4-1-2)

Grease :
- Use the regular Grease.

2mm STICK WITH DIAMETER

OIL
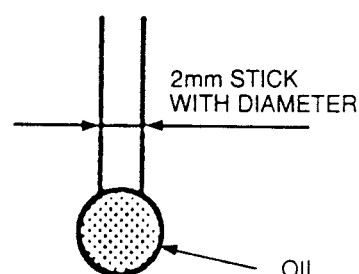
Fig. 4-1-2

DECK MECHANISM DISASSEMBLY AND REASSEMBLY

1. Front Loading Mechanism

1-1. Housing Ass'y Disassembly
1) Disassembly (Fig. 4-2-1)
    (1) Set the unit to the ULC Mode (Unloading Mode).
    (2) Remove 4 Screw(1) on the upper part and then remove the Housing Ass'y CST.
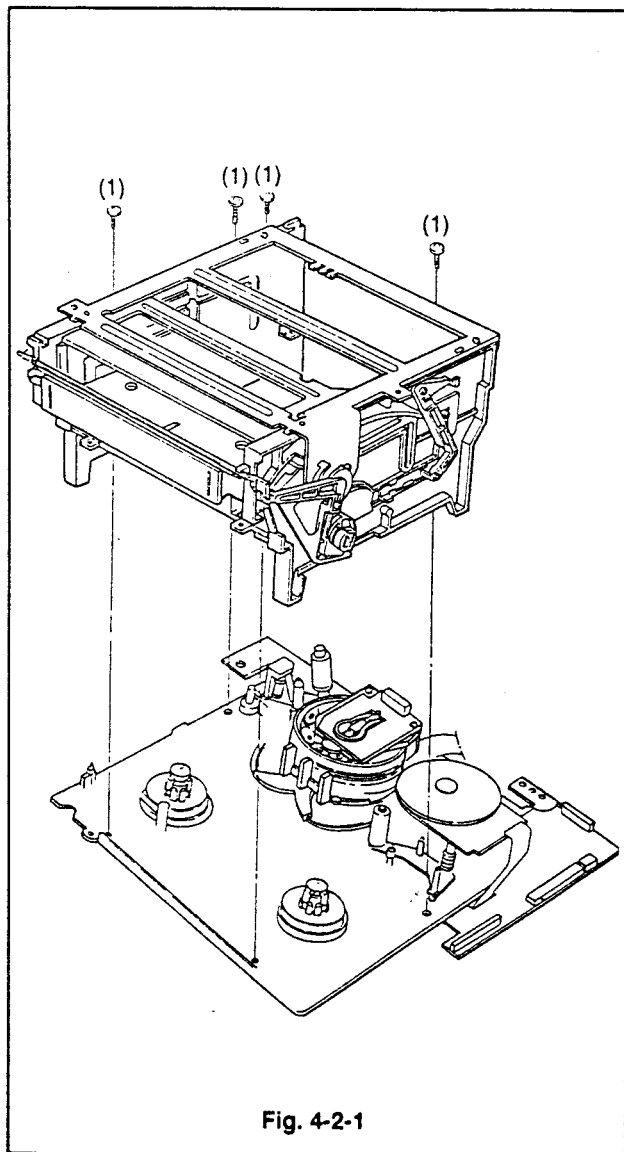
Fig. 4-2-1

2. DC MOTOR (Capstan motor) ASS'Y

2-1. Disassembly (Fig. 4-2-2)
(1) Set the Unit on the ULC Mode (Unloading).
(2) Remove the DC Motor Ass'y by releasing 3 Screws(3) on the lower part of the Chassis.

2-2. Reassembly (Fig. 4-2-2)
(1) Engage the Capstan Gear with the conversion Gear by fixing the 2 Guider bosses and 3 Guider Holes on the Upper part of Chassis into the 2 Guider Holes on the Capstan Gear.
(2) Set the DC Motor Ass'y with 3 Screws(3) on the Lower part of Chassis.

NOTES :
• Use the about 2kgfcm Torque to fix Screw.
• Do not engage with the Gears by forces, because the Capstan Gear is easy to get demaged.
• Stick the DC Motor fast to the Chassis completely.
• Do not touch the Capstan motor Axle, Oil Seal and Rotor.
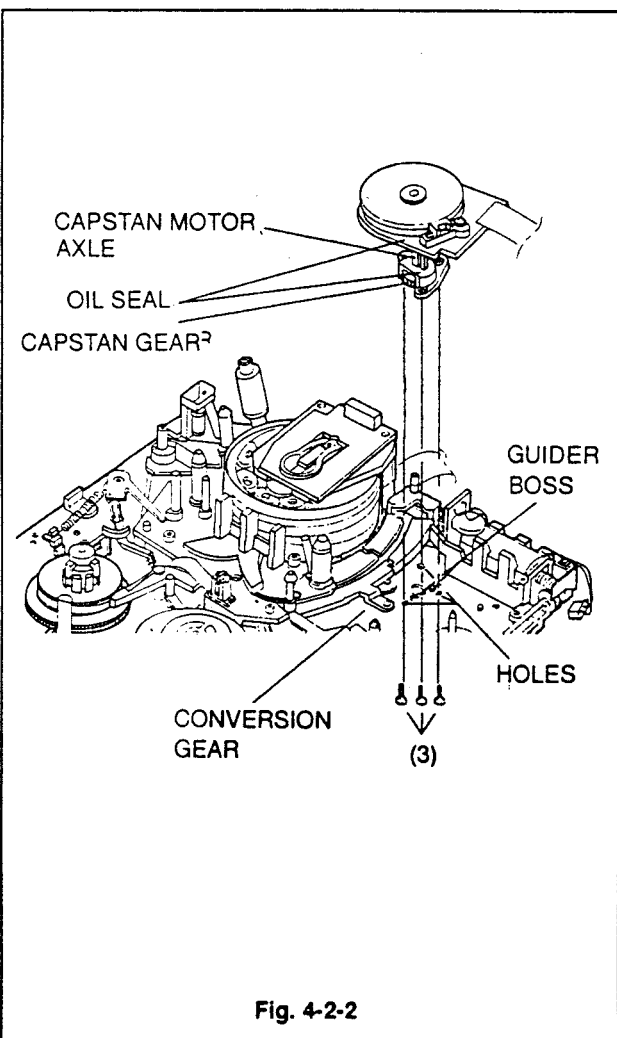
Fig. 4-2-2

3. PINCH ARM ASS'Y AND PINCH LEVER ASS'Y

3-1. Disassembly (Fig. 4-2-3)
(1) Set the Unit to the ULC Mode.
(2) Remove the Pinch Arm Ass'y by removing the stopper Washer.
(3) Remove the Pinch Lever Ass'y.

AXLE (B)

OIL 1/2 DROP

Fig. A

GUIDE WAY

PINCH LEVER ASS'Y
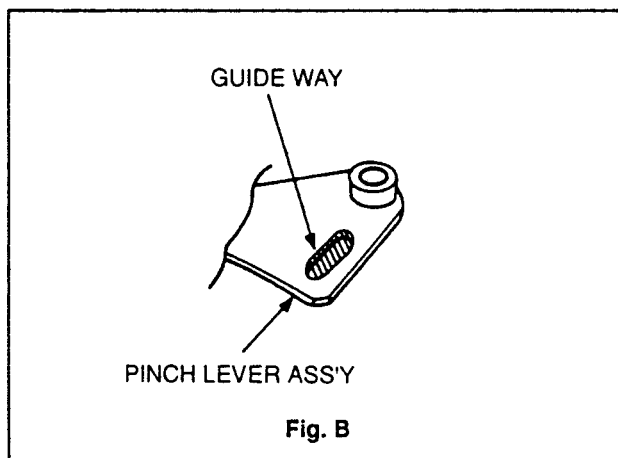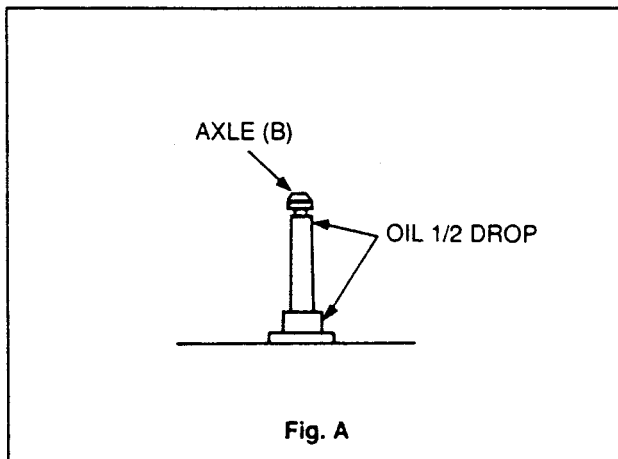
Fig. B

3-2. Reassembly (Fig. 4-2-2, 4-2-3)
(1) Apply Oil 1/2 drop to the Axle(B) 2 point.
(2) Apply greese in the in side of Guide on the Pinch Lever Ass'y (Fig. B).
(3) Stick the Axle(A) of Pinch Lever Ass'y in the Axle B and assemble so the Roller is to be approached to the Guide Way.
(4) Assemble so the Pinch Lever Ass'y pin is sticked in the ⓐ point by inserting the Pinch Arm Ass'y Axle(C) in the Axle (reassembling state).
(5) Set the Stopper Washer.

NOTES :
• Be careful the Nut is not to touch the Rubber Roller when reassembling the Pinch Arm Ass'y to Axle.
• Be careful the object material is not to stain the outer surface of Rubber Roller.

STOPPER WASHER

RUBBER ROLLER

ⓐ

PINCH LEVER ASS'Y

AXLE (C)

PIN

AXLE (A)

GUIDE WAY

PINCH ARM ASS'Y

AXLE (B)
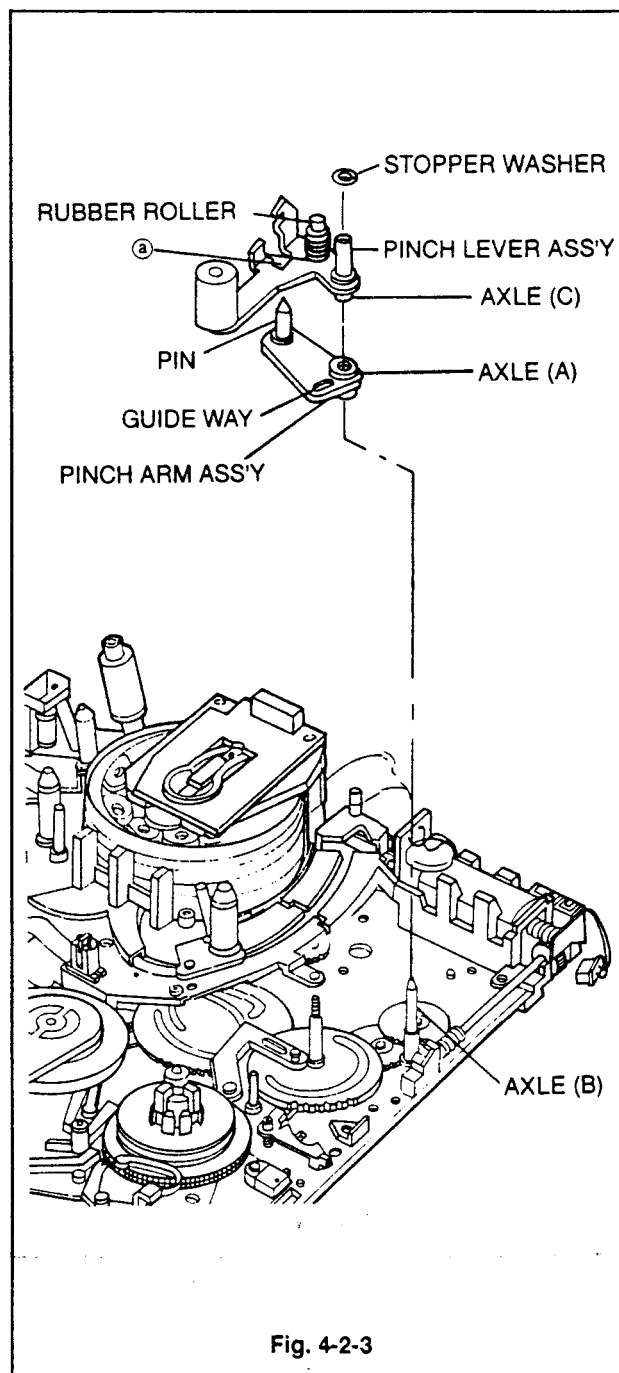
Fig. 4-2-3

4. TAKE UP ARM ASS'Y

4-1. Disassembly (Fig. 4-2-4)
(1) Set the Unit to the ULC Mode.
(2) Remove Nut(A) by using the (-) Driver.
(3) Remove Nut(B) by using the exclusive Driver.
(4) Remove the Slide Washer.
(5) Remove the Take Up Arm Ass'y.
   At this time, remove after the Spring Arm ⓐ point is to be supported to the Vertical Bending part ⓑpoint of Take Up Arm Ass'y.
(6) Remove the Spring.
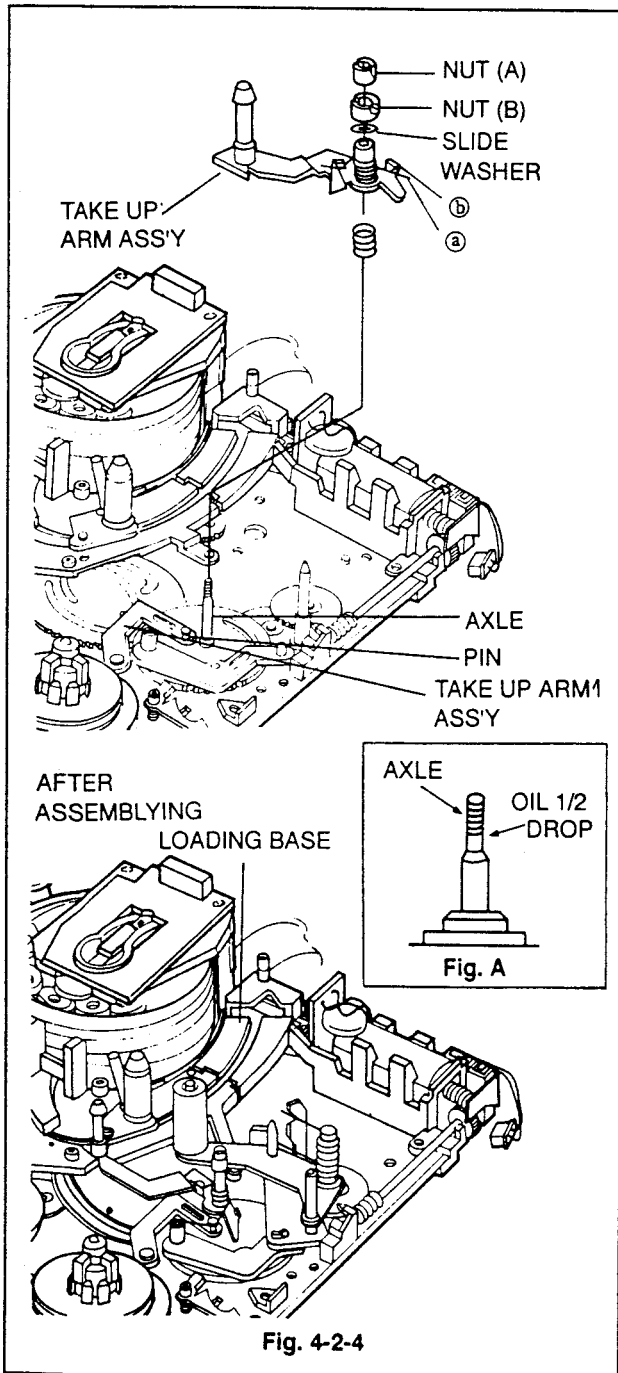
4-2. Reassembly (Fig. 4-2-4)
(1) Apply the Oil 1/2 drop on the Axle.
(2) Assembly the Compression Spring, Take Up Arm Ass'y, Slide Waher, Nut(B) and Nut(A) to the Axle.
(3) Strain the Spring Arm ⓐ point of Take Up Arm Ass'y to the front to be stopped by sticking in the in side of Take Up Lever Ass'y Pin.

4-3. Take Up Arm Ass'y Height Adjustment
(1) Adjust to 3mm the height between the Cassette install standard side of Loading Base and the Frange Upper side of Take Up Arm Ass'y.

Fig. B
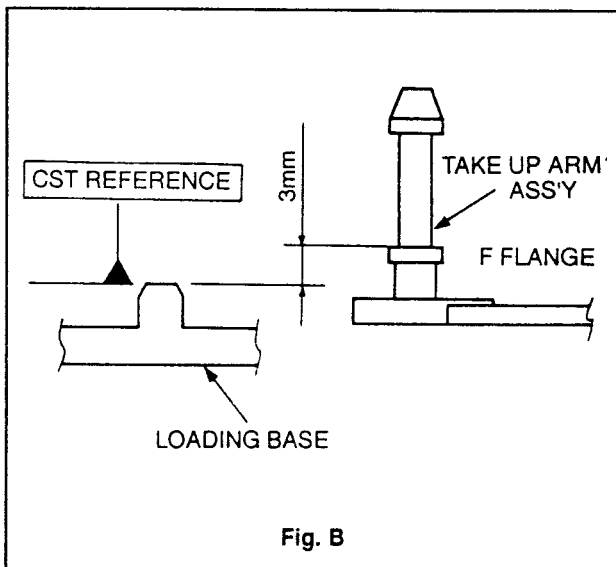
NOTES :
• Do not force the Spring Arm unreassembly during disassembly and reassembly, it may cause the transformation of spring.
• Readjust the Take Path after reassembly.

Fig. 4-2-4

5. MODE LEVER ASS'Y and TAKE UP LEVER ASS'Y

5-1. Disassembly (Fig. 4-2-5)
(1) Set the Unit to ULC Mode.
(2) Remove the Stopper Washer and then remove the Mode Lever Ass'y.
(3) Remove the Stopper Washer and then remove the Take Up Lever Ass'y.

5-2. Reassembly (Fig. 4-2-4, 4-2-5)
(1) Apply the Grease in the CAM trace ⓐ of Mode Gear.
(2) Apply the Oil 1/2 drop to the Axle.
(3) Stick the Mode Lever Ass'y pin in the CAM trace ⓐ of Mode Gear and then assemble the Mode Lever Ass'y to the Axle(A).
(4) Set the Stopper Washer.
(5) Apply the Oil 1/2 drop to the Axle(B).
(6) Stick the Take Up Lever Ass'y pin in the CAM trace ⓑ of CAM Gear and then assemble the Take Up Lever Ass'y to the Axle.
(7) Set the Stopper Washer.
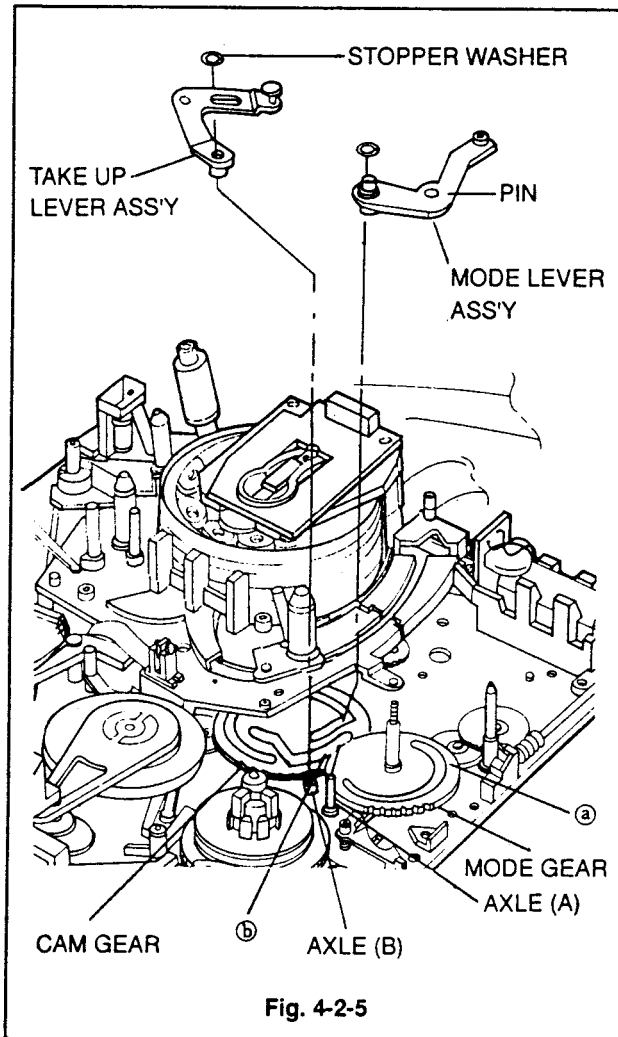
Fig. 4-2-5

6. SOFT BRAKE ASS'Y AND T/BAND PROTECT

6-1. Disassembly (Fig. 4-2-6)
(1) Set the Unit to the ULC Mode.
(2) Hook the Spring Arm point ⓒ stuck in the Vertical Bending part point ⓑ on the Upper part of Chassis to the Spring hanger of Soft Brake Ass'y.
(3) Remove the Stopper Washer and then remove the Soft Brake Ass'y.
(4) Release the Screw and remove the T/Band Protect.

6-2. Reassembly
(1) Stick the T/Band Protect in the Sensor Bracket point ⓐ.
(2) Set the Screw to point ⓐ using the (+) Driver.
(3) Set the Soft Brake Ass'y to the Axle.
(4) Set the Stopper Washer.
(5) Assemble the Spring Arm point ⓒ stuck in the Soft Brake Ass'y supports the Vertical Bending part point ⓑ on the upper part of Chassis.

NOTES :
• Use the about 1.2kgf • cm Torque to fix the T/Band Protect Set Screw.
• Do not force the Spring Arm ⓒ unreassembly, it may cause the transformation of Spring.
• During T/Band Protect assembling, be careful the Reel Ass'y Gear not to be denaged.
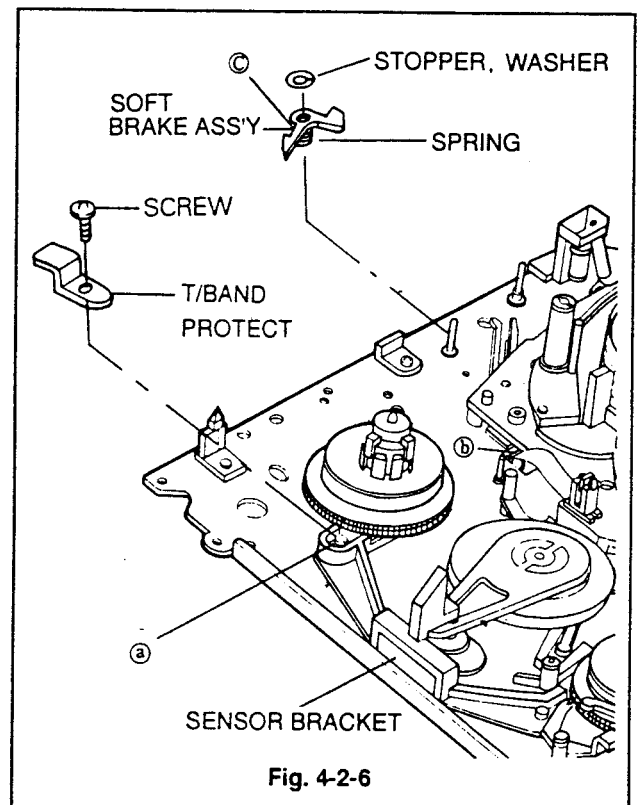
Fig. 4-2-6

7. TENSION REGULATOR ASS'Y AND SLANT ROLLER ARM ASS'Y

7-1. Disassembly (Fig. 4-2-6, 4-2-7)
(1) Set the Unit to the ULC Mode.
(2) Hook the Spring Arm point ⓐ to the Spring Hanger point ⓔ of Slant Roller Arm Ass'y.
(3) Remove the Stopper Washer and the remove the Slant Roller Arm Ass'y.
(4) Remove the Spring Hook of Tension Regulator Ass'y from the Spring Hanger point ⓒ of Bracket.
(5) Remove the Screw using the (+) Drive.
(6) Remove the Stopper Washer and then remove the Tension Regulator Ass'y.
(7) Remove the Slide Washer.

Fig. A

Fig. B
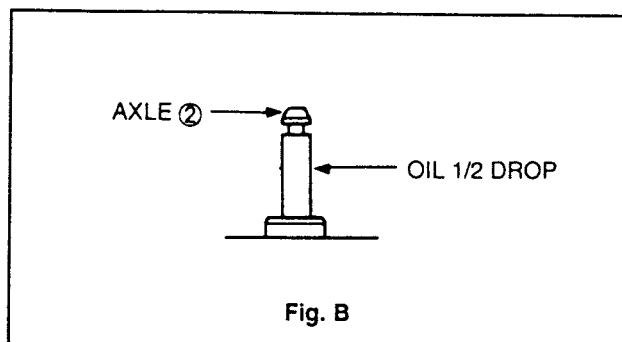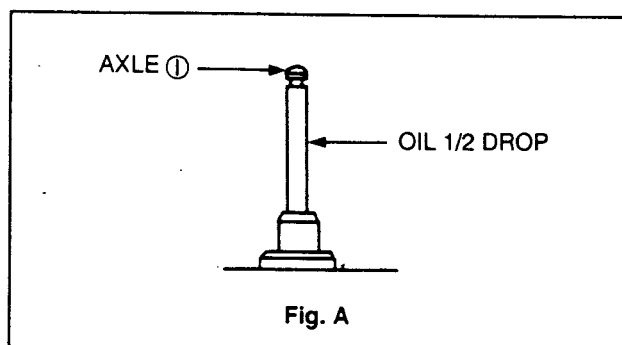
NOTES :
• Be careful so the Band is not to be distarted or folded and the Felt is not to be dirted by an object material during disassembly the Tension Regulator Ass'y.
• Be careful so the Roller surface is not to be dirted by an object material during disassembling the Slant Roller Arm Ass'y.

7-2. Reassembly (Fig. 4-2-7, 4-2-8)
(1) Assemble the Slide Washer to the Axle ②.
(2) Apply the Oil 1/2 drop to the Axle ②.
(3) Assemble the Felt side of T/Band Ass'y with the point ⓕ part of S-Reel Ass'y correctly by sticking the Tension Regulator Ass'y on the Axle.
(4) Assemble the Bracket Guider boss of T/Band Ass'y to accord with the Guide Hole on the upper part of Mechanism Chassis, and then set the Screw.

(5) Assemble the Stopper Washer on the Axle ②.
(6) Put up the Spring Hook at the middle point of Bracket Spring Hanger ⓒ.
(7) Apply the Oil 1/2 drop to the Axle ①.
(8) Assemble the Slant Roller Arm Ass'y on the Axle ①.
(9) Set the Stopper Washer to the Axle ①.
(10) Adjust the position of Tension Regulator FWD.
(11) Put up the Spring Hook ⓑ at the middle Claw of Bracket Spring Hanger ⓒ on the T/Band Ass'y.

Fig. 4-2-7
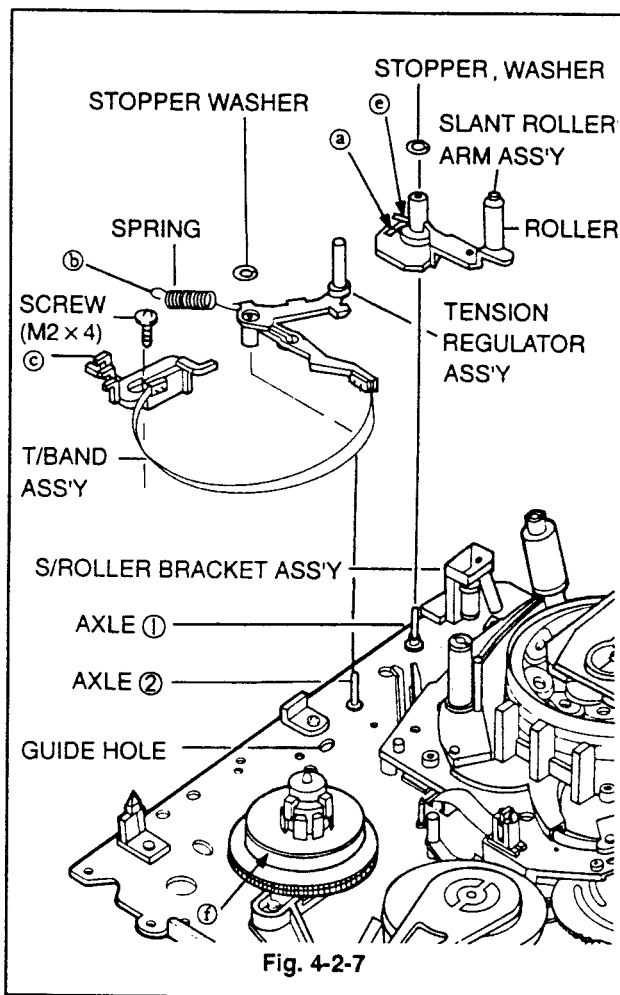
NOTES :
• During assembling the Tension Regulator Ass'y, be careful the Band is not to be distorted or folded and the Felt is not to be dirted by an object material.
• Use the about 1.2kgf • cm Torque to fix the Bracket Set Screw.
• During assembling the Slant Roller Arm Ass'y, be careful the Roller surface is not to be dirted by an object material.

8. TENSION REGULATOR FWD POSI-TION AND BACK TENSION ADJUST-MENTS

8-1. FWD position Adjustment
(1) Set the Unit to the FWD Mode after Loading a Cassette Tape. (Loading make)
(2) Make Sure the gap between the edge of cap on the Tension Regulator Ass'y and the edge of Boss point ⓐ on the Slant Roller Arm Ass'y is 0.5~1mm.
   If the gap is over the range, adjust the next step after ejecting the Cassette Tape.
(3) Remove the Set Screw of the Bracket on the T/Band Ass'y.
(4) If the measuring gap is farther than the range, draw the Bracket up to the Direction of arrow Ⓐ, and if the gap is nearer than the range, thrust the Bracket to the direct on of arrow Ⓐ, and then set the Screw.
(5) Check the gap is in the range value by adjusting steps(1), (2) repeatedly.

NOTES :
• Use a Cassette Tape wound about half.
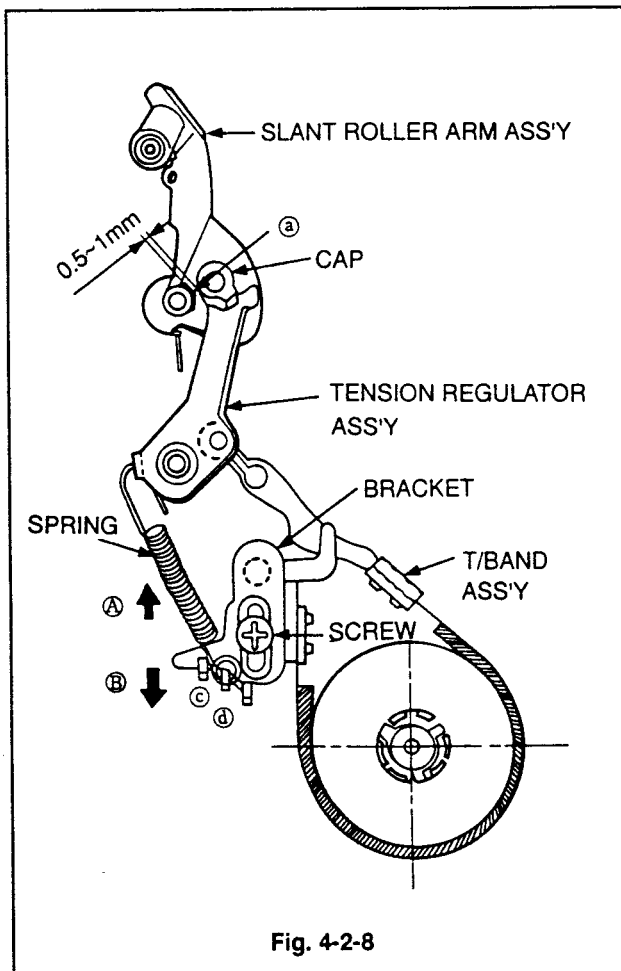
8-2. Back Tension Adjustment (Fig. 4-2-8)
(1) Load the Torque Cassette Tape in the Unit and set the Unit to Ope-Mode after step, adjustment. (Forward Play Mode).
(2) Check the Back Tension Torque of the Supply side is in 6.5±2(gf • cm).
(3) Otherwise, adjust the Spring hanger position of Bracket as follows;
(4) If the measurment value is more than the range, put the Spring Hook up to the Hanger ⓒ, and if it is less than the range, put the Spring Hook up to the Hangerⓓ.
(5) Make sure the Back Tension is in the range value by adjusting steps(1), (2) repeatedly.

8-3. Reel Torque Checking
(1) Load the Torque Cassette Tape in the Unit.
(2) Set the Unit to FWD Mode and check the Torque on the T Reel Table is in 12.5±4gf • cm.
(3) Set the Unit to REV Mode and Check the Torque on the S Reel Table is in 12.5±4gf • cm.
(4) Set the Unit REV Mode and Check the Torque on the T Reel Table is in 12.5±4gf • cm.
(5) If each Torque Value is over the range, change the Reel table.

SLANT ROLLER ARM ASS'Y

0.5~1mm

ⓐ

CAP

TENSION REGULATOR ASS'Y

BRACKET

SPRING

T/BAND ASS'Y

Ⓐ

Ⓑ ⓒ ⓓ

SCREW

Fig. 4-2-8

9. WORM GEAR ASS'Y MIDDLE GEAR, TRANS GEAR ASS'Y, LOADING MOTOR ASS'Y AND BRACKET ASS'Y

9-1. Disassembly (Fig. 4-2-9-1, 4-2-9-2)

(1) Remove the Screw for removed the Loading Motor Ass'y (Fig. 2-9-2). At this time, the Worm Gear Ass'y is disassembled simultaneously with the Loading Motor Ass'y ⓐ and Worm Gear Ass'y ⓑ in gear together. (Fig. 4-2-9-1)
(2) Remove the Loading Motor Ass'y and Worm SHAFT Ass'y. (Fig. 4-2-9-1)
(3) Remove the Stopper Washer and remove the Trans Gear Ass'y.
(4) Remove the Stopper Washer and remove the Middle Gear.
(5) Release the Screw to remove the Bracket Ass'y.
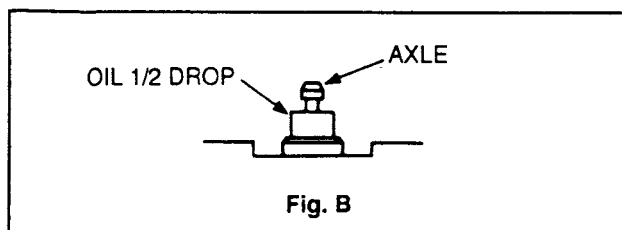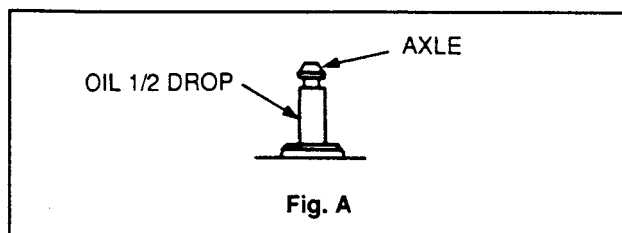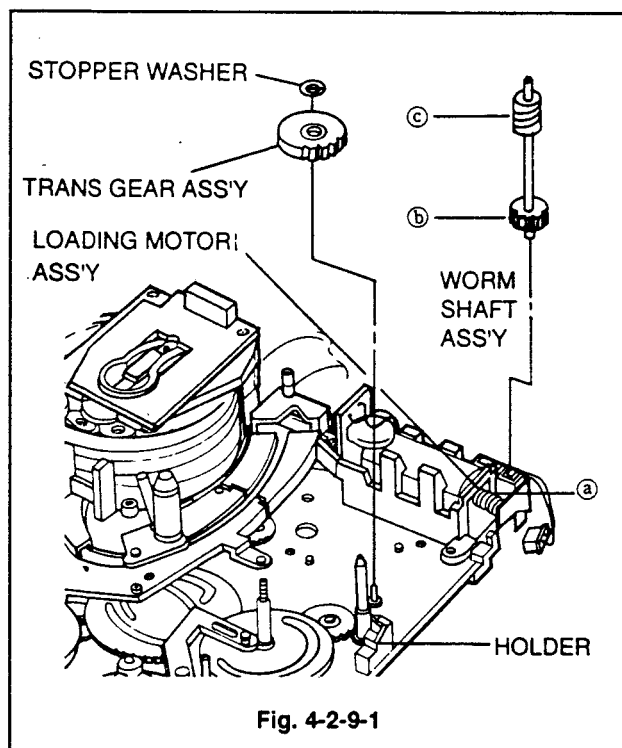
9-2. Reassembly (Fig. 4-2-9-2)

(1) Assemble the Guide Bosses 2 points of Bracket Ass'y to accord with the Guide Holes "ⓐ" and "ⓑ" on the upper part of Mechanism Chassis, and then set the screw.
(2) Apply the Oil 1/2 drop on the Axle.
(3) Go in gear the Mode Gear with Middle Gear by sticking on the Axle.
(4) Set the stopper Washer to the Axle.
(5) Assemble the Guide Bosses 2 points on the Lower part of Loading Motor Ass'y to accord with the Guide Holes "ⓒ" and "ⓓ" on the upper part of Mechanism Chassis and then set the Screw.
(6) After the Gear point ⓑ of Worm Gear Ass'y is to be toward below, stick it into the Gear ⓐ bottom of Loading Motor Ass'y, and fix the Shafe end tip is to be supported to the Loading Motor Bracket first tip, and then assemble the other side of Shaft by pushing from inside of Holder to outside.
(7) Apply the GREASE on the parts. (Fig. C)
(8) Apply the Oil 1/2 drop on the Axle.
(9) Go in gear with the Middle Gear and Worm Gear Ass'y Gear ⓒ together by sticking the Trans Gear Ass'y on the Axle.
(10) Set the Stopper Washer on the Axle.

STOPPER WASHER

TRANS GEAR ASS'Y

LOADING MOTOR ASS'Y

WORM SHAFT ASS'Y

HOLDER

Fig. 4-2-9-1

OIL 1/2 DROP — AXLE

Fig. A

OIL 1/2 DROP — AXLE

Fig. B

MOTOR BRACKET

GREASE   GREASE

GREASE

CHASSIS   SHAFT

Fig. C
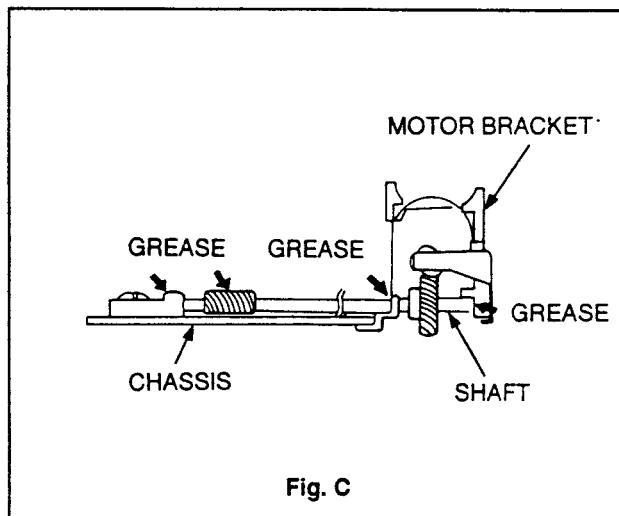
NOTES :

- Do not in gear the Gears by force during dis-assembly/reassembly of Gear, bited each other.
- During assembling the Bracket Ass'y, be careful the Roller surface is not to be dirted by an object material.
- Use the about 1.2kgf • cm Torque to fix the Screw.

Fig. 4-2-9-2
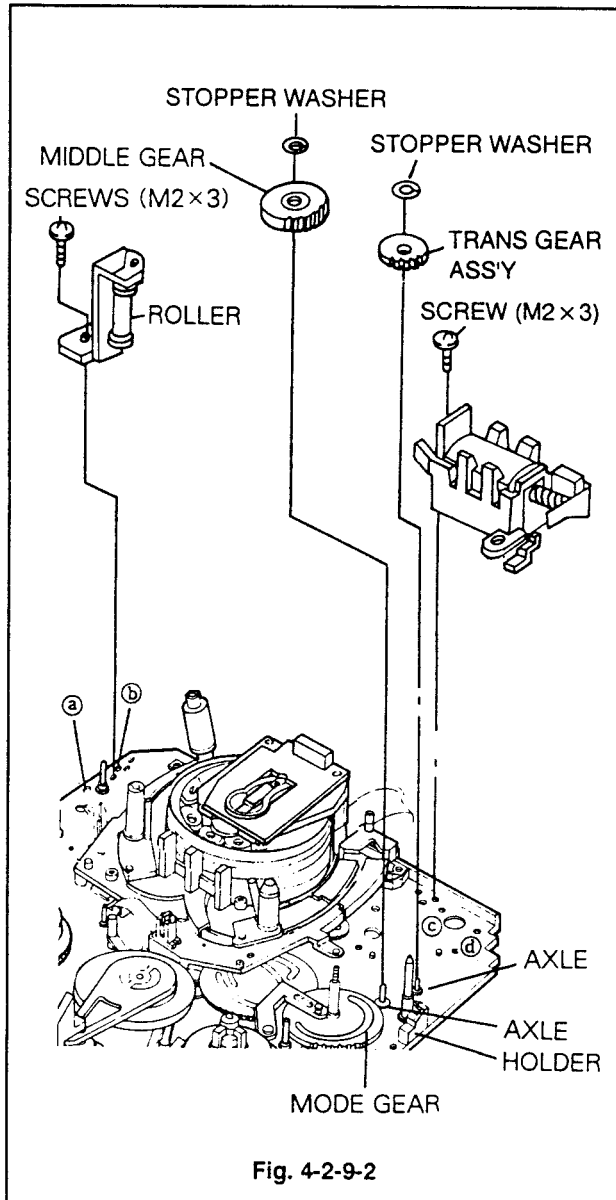
10. LOADING BASE ASS'Y, MODE GEAR ASS'Y AND EJECT LEVER ASS'Y

10-1. Disassembly (Fig. 4-2-10)

(1) Remove the LED Ass'y from the Led assembly Hole of Loading Base Ass'y.
(2) Remove 3 Screws and then remove the Loading Base Ass'y.

(3) Release the Stopper Washer and remove the Mode Gear Ass'y.
(4) Hook the Spring Arm point ⓐ of Eject Lever Ass'y by pushing to the front to the Spring Hanger of Eject Lever Ass'y.
(5) Remove the Stopper Washer and then remove the Eject Lever Ass'y.

NOTES :

- Be careful the Led Ass'y Hook is not to danage during disassembly the LED Ass'y from the Led assembly Hole of Loading Base Ass'y.
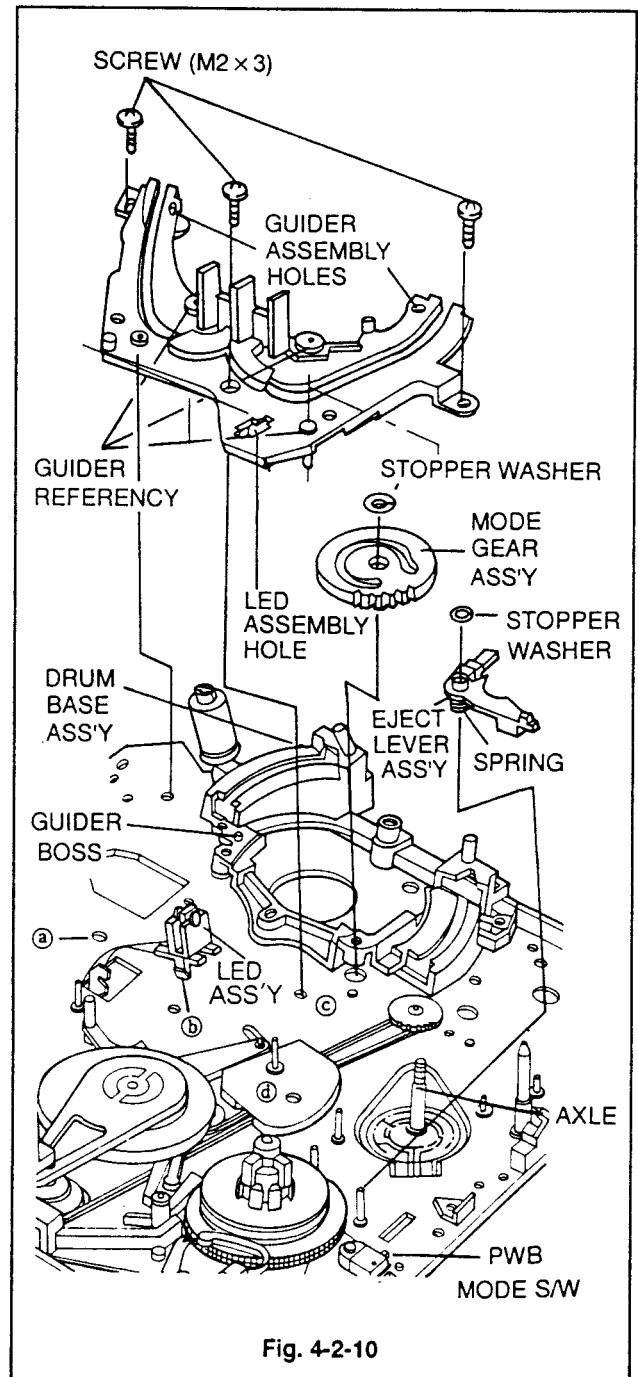
Fig. 4-2-10

10-2. Reassembly (Fig. 4-2-10)

(1) Fix the Guide Basic 4 pins of Loading Basse Ass'y to the refuge holes "ⓐ ", "ⓑ", "ⓒ" and "ⓓ" formed on the upper part of Mechanism Chassis. Stick the Pin into the Gear trace of outer Cam formed on the Cam Gear by pushing the Brake Lever Ass'y slightly in the direction of arrow, and then stick the Guide Basic 4 Pins of Loading Base Ass'y fast to Guide 2 Holes by pressing from above to below. (Fig. A)

(2) Set 3 Screws to "T1", "T2" and "T3" on the upper part of Mechanism Chassis.

Fig. A
Brake Lever Ass'y and Cam Gear Assembly

Fig. B
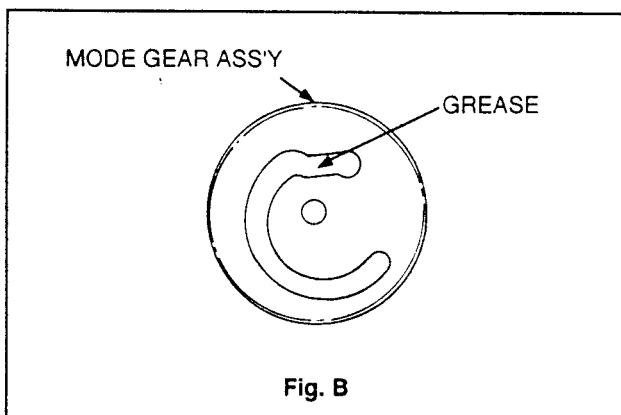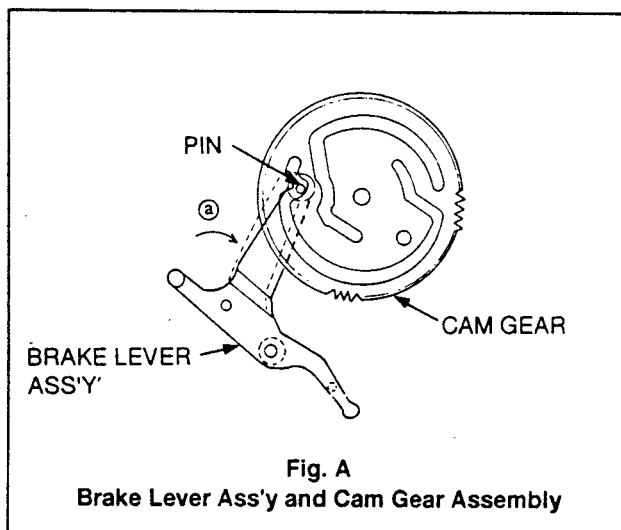
(3) Assemble the Eject Lever Ass'y on the Axle, and Set the Stopper Washer on it.

(4) Wipe the surface of PWB Mode S/W with the cotton stick with the cleanser.

(5) After the cleanser is dried completely, Apply the Grease to the point of contact evenly and thinly.

(6) Apply the Grease on the Mode Gear Ass'y Cam formative parts.

(7) Go in gear the Cam Gear with the Mode Gear Ass'y by sticking on the Axle. (Fig. C)

(Assembly Method)

Go in gear with together so the intaglioed arrow edge to accord on the line connected to the middle of Mode Gear Ass'y and the middle of Cam Gear.

Fig. C

Fig. D
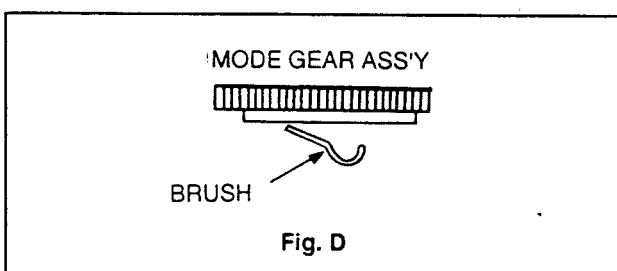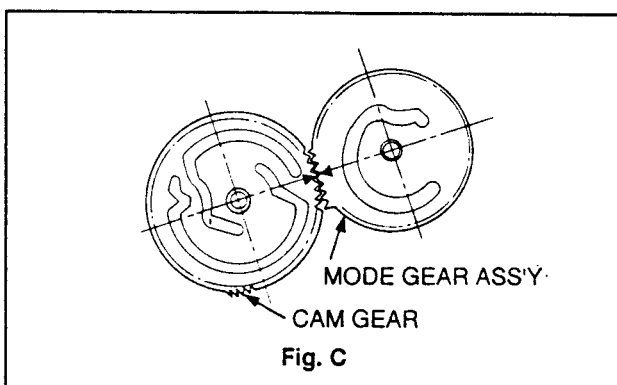
(8) Set the Stopper Washer on the Axle.

(9) Push the Spring Arm point ⓐ of Eject Lever Ass'y from the Spring hanger to below to be supported to the sidewall of CST S/W.

(10) Apply the Grease on the deviant lines of Loading Base Ass'y (Fig. 4-2-11).

(11) Stick the Led Ass'y into the Led Ass'y Hold of Loading Bass Ass'y.

NOTES :

• Use the about 1.2kgf • mm Torque to set 3 Screws.

• Do not force unreasonably, during disassembly and reassembly it may cause the transformation of Gear.

• Be careful so the Roller(S), (T) is not to be dirted by an object material.

• Take the Led Ass'y Hook and Loading Base Ass'y not to be transformed during assembling the Led Ass'y to the Led Ass'y Hole of Loading Base Ass'y.

• Be careful so the Brush on the Lower part is not to be transformed during handling the Mode Gear Ass'y (Fig. D).

• Do not gear in the Mode Gear Ass'y and Cam Gear by force during assembling, the Gear parts may get damaged.

• Take the Spring Arm ⓐ of Eject Lever Ass'y not to be transformed by force.

11. GEAR LOADING ASS'Y(S), (T), SLANT BASE ASS'Y(S), (T), CAM GEAR AND LEVER DRIVE ASS'Y

11-1. Disassembly (Fig. 4-2-11-1, 4-2-11-2)

(1) Turn the Loading Base Ass'y over, and remove the part ⓐ of stopper Plate from Pin "D" by raising and then remove the Stopper Plate by Pushing and raising to "A" direction (to above). (Fig. 4-2-11-1)

(2) Remove the Lever Drive Ass'y from Pin "D" on the Loading Base Sub Ass'y.

(3) Turn the Cam Gear to the "L"direction to stop the rotating. At this time the Slant Base Ass'y(S), (T) also move forward because the Loading Gear Ass'y(S), (T) is rotated (Fig. 4-2-11-3).

(4) Remove the Loading Gear Ass'y(S) and Slant Base Ass'y(S) from the pin "C" on the Loading Base Sub Ass'y.

(5) Remove the Stopper Washer of Loading Gear Ass'y and disassemble the Slant Base Ass'y(S).

(6) Remove the Loading Gear Ass'y(T) and and Slant Base Ass'y(T) from the pin "B" on the Loading Base Sub Ass'y.

(7) Remove the Stopper Washer of Loading Gear Ass'y(T) and disassemble the Slant Base Ass'y (T).

(8) Remove the Stopper Washer from the pin "A" on the Loading Base Sub Ass'y and disassemble the Cam Gear.
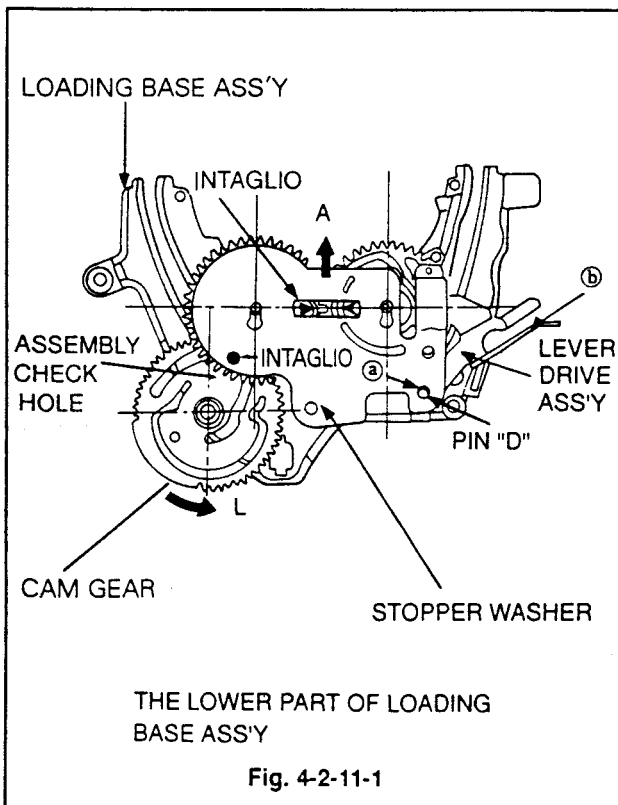
11-2. Reassembly (Fig. 4-2-11-1, 4-2-11-2)

(1) Apply the Oil 1/2 drop on the pin "A" of Loading Base Sub Ass'y. (Fig. 4-2-11-2)

(2) Apply the Grease on the deviant lines of Cam Gear. (Fig. A)

(3) Stick the Cam Gear in the pin "A" of Loading Base Sub Ass'y adn then set the Stopper Washer.

(4) Stick the Slant Base Ass'y(T) and the set theStopper Washer.

(5) Assemble the Cam Gear and Loadilng Gear Ass'y by going in gear together.

THE LOWER PART OF LOADING BASE ASS'Y

Fig. 4-2-11-1

Fig. 4-2-11-2
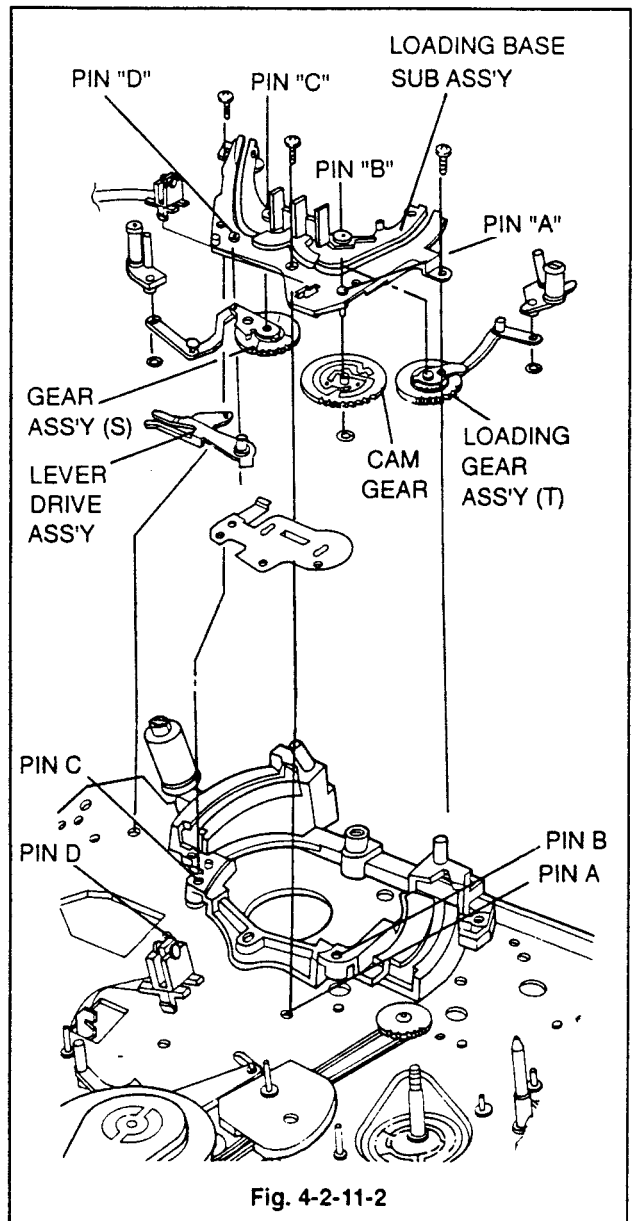
(Assembly Method)

Apply the Oil 1/2 drop to the Pin "B". Accord the "assembly basic Hole", on the part unformed the teeth pattern by turning the Cam Gear, with the Guider Hole "E" forned on the Loading Base Sub Ass'y.

Fix the Loading Gear Ass'y(T) in the Pin "B". Accord the Guider Hole "F" in the center of cam Gear and Loading Cam Gear.

In the state, fix the little Gear(A) Teeth in the Cam Gear by pushing the Loading Gear Ass'y(T) from the Upside .to the lower. (Fig. 2-11-3). And Check the Guider Hole "G" of Loading Gear Ass'y(T) is placed in the straight line between Pin "B" and Pin "C".

Fig. A

Fig. B

Fig. C
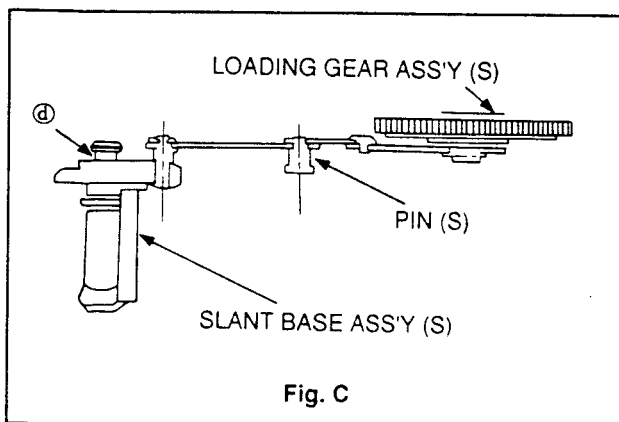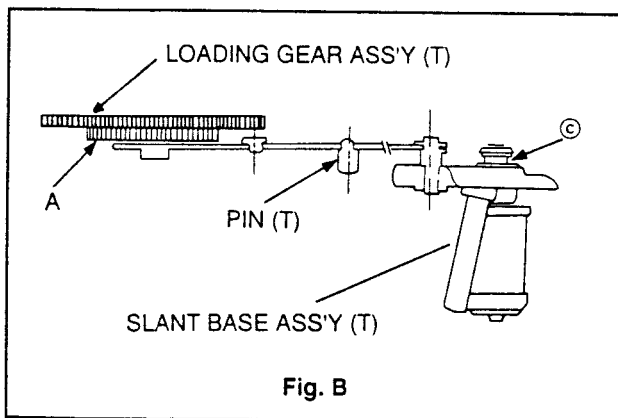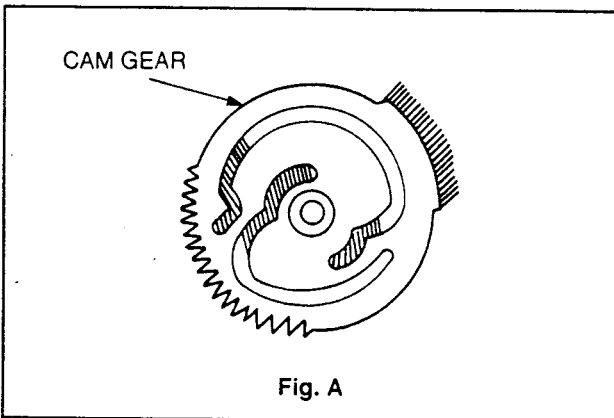
(6) Stick the Pin "T" head of Loading Gear Ass'y(T) in the Guide Way "A" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)

(7) Stick the Slant Base Ass'y(S) in the Lever Hold of Loading Gear Ass'y(S) and Set the Stopper Washer. (Fig. 4-2-11-2)

(8) Apply the Oil 1/2 drop in the Pin "C" of Loading Base Sub Ass'y. (Fig. 4-2-11-2). Go in gear the teeth of Loading Gear Ass'y(S) with the teeth of Loading Gear Ass'y(T).
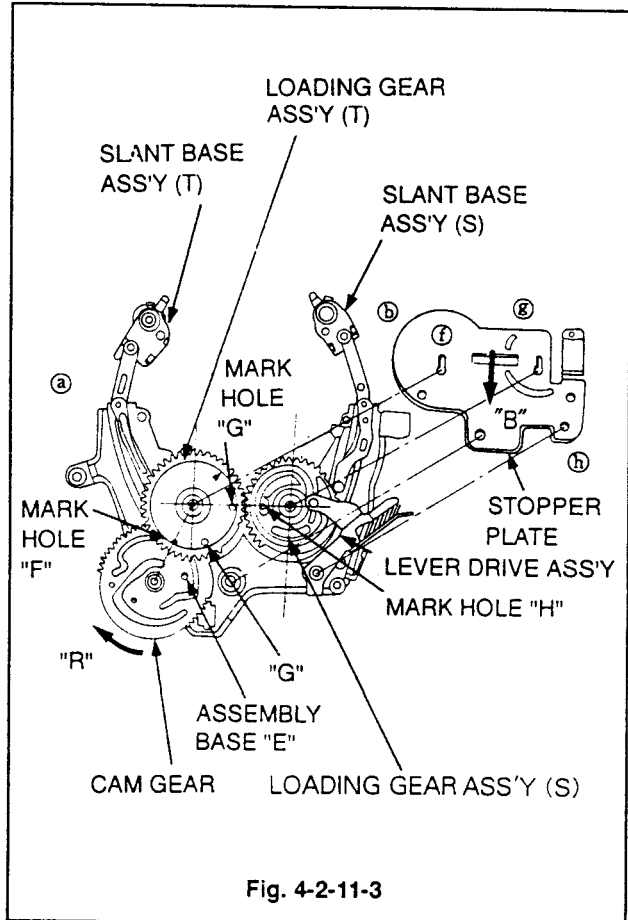
Fig. 4-2-11-3

(Assembly Method)

Fix the Loading Gear Ass'y(S) in the Pin "C" and check the Guide Hole "H" is placed in the straght line between Pin "B" and Pin "C", After Assembly, Pin "B", Guider Hole "G", Guider Hole "H" and Pin "C" are placed on the straight line. (Fig. 4-2-11-3)

(9) Stick the Pin(S) Head of Loading Gear Ass'y(S) in the Guide Way "B" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)

(10) Rotate the Cam Gear to the direction of "R" Stick the part "C" of Slant Base Ass'y(T) and part "D" of Slant Base Ass'y(S) in the Guide Way "A" and "B" of Loading Base Sub Ass'y and then rotate the Cam Gear to the direction of "R" until the rotaty is stopped.

(11) Apply the Grease on the deviant Lines of Cam trace formed on the Gear. (Fig. D)

(12) Apply the Oil 1/2 drop in the Pin "D" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)

(13) During sticking the Lever Drive Ass'y in the Pin "D" of Loading Base Sub Ass'y, stick the Pin "L" of Lever Drive Ass'y in the inside of Cam trace on the Loading Gear(S). (Fig. D, part "E")

(14) Apply the Grease on the deviant Lines of Lever Drive Ass'y. (Fig. 4-2-11-3)

(15) Set the Stopper Plate

(16) Turn the Loading Base Ass'y over, and apply the Grease to the deviant lines of the upper part on the Guide Way.

LOADING GEAR (S)

"E"

Fig. D
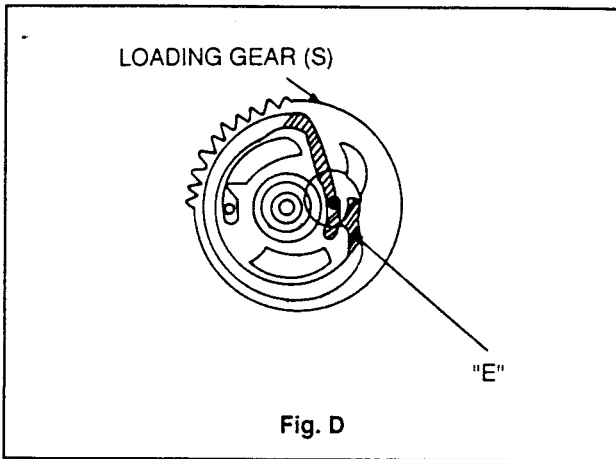
(CHECKING) (Fig. 4-2-11-1)
• Check the Vertical hem of Loading Gear Ass'y(T) negative mark "D" and Loading Gear Ass'y(S) positive mark " " are accorded with each other.
• Check the stopper Plate Guider Hole "I" and Loading Gear Ass'y(T) negative mark "G" are accorded with each other.
• During the checking, if the wrong result is found, adjust the steps above again.

NOTES :
• During the Gears assembly, be careful of the Teeth of Gears get demaged by force.
• Do not force them umreasonably to disassembly and assembly.
• During the Slant and Base Ass'y(C), (T) disassembly and assembly, be careful of the obstruction adhere to the Roller and Post.

12. DRUM BASE ASS'Y AND INERTIA ROLLER ASS'Y

12-1. Disassembly (Fig. 4-2-12) (Fig. A)
(1) Remove 3 Screws and ever remove Drum Base Ass'y.
(2) Remove the Nut.
(3) Remove the Slide Washer, Roller, Sleeve, Lower Flange and Spring.

NUT
SLIDE WASHER
ROLLER
SLEEVE
LOWER FLANGE
AXLE
SPRING
DRUM BASE
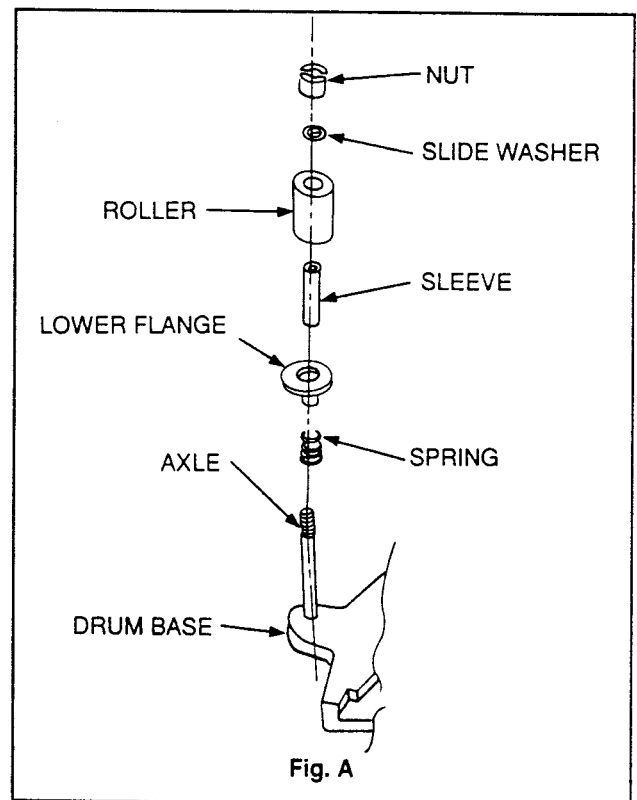
Fig. A

12-2. Reassembly (Fig. 4-2-12) (Fig. A)

(1) Install the Spring, Lower Flange, Sleeve, Roller and Slide Washer on the Axle of Drum Base.
(2) Fix the Axle by rotating the Nut four or six times.
(3) Stick the Guide Bosses 2 point of Drum Base Ass'y in the Boss refuge Holes on the upper part of the Mechanism Chassis from above to below.
(4) Set 3 Screws to fix the Drum Base Ass'y.

NOTES :

• Use the about 2kgf • cm Torque to set Screw.
• Be careful so the Roller surface is not to be dirted during disassembly and assembly.
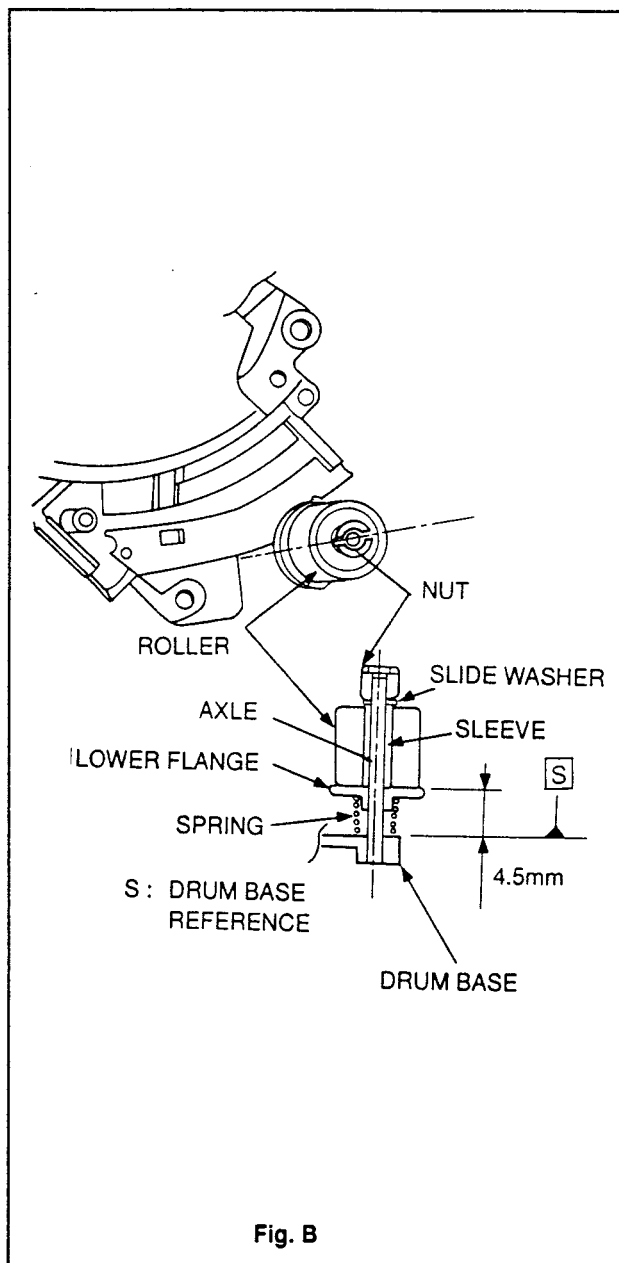
Fig. B

12-3. Roller Height Adjustment (Fig. B)

(1) Adjust the height of Drum Base Lower Side and Lower Frange upper Side by rotating the Nut.

NOTE :

• Readjust the Tape Path after adjustment.
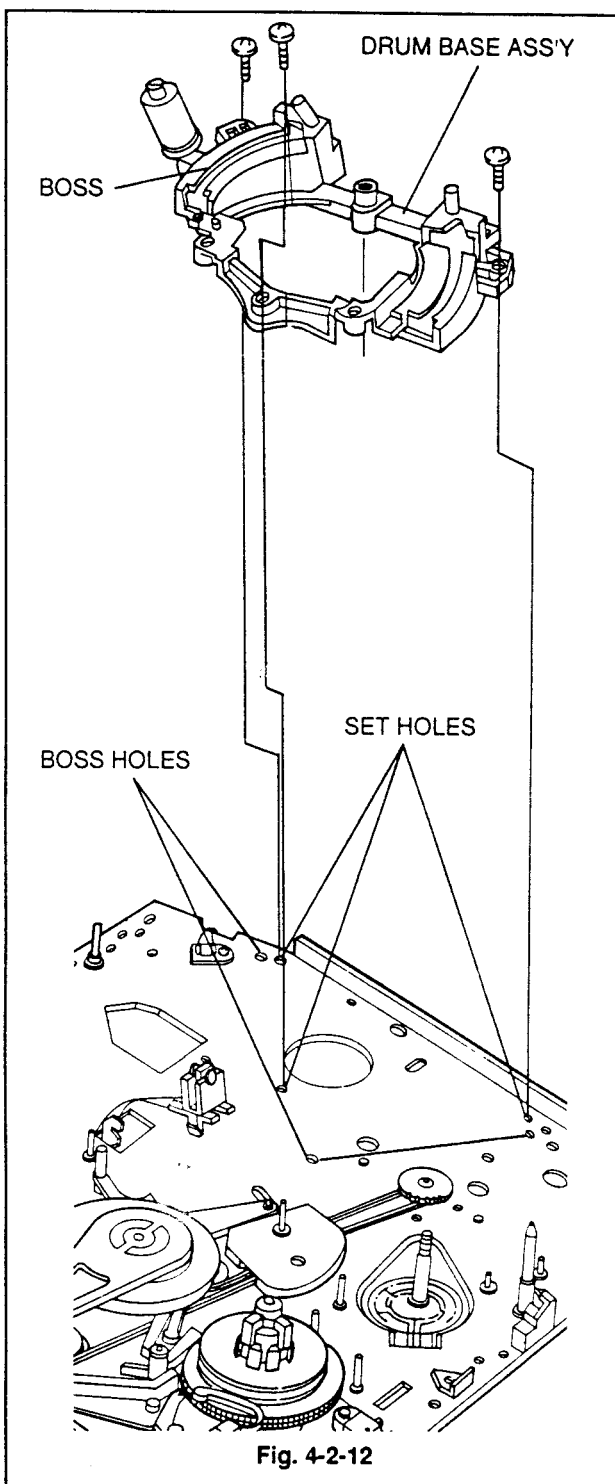
Fig. 4-2-12

13. BRAKE CLUTCH, REEL ASS'Y(S), REEL ASS'Y(T), SENSOR BRACKET, IDLER GEAR ASS'Y AND CAM SPACER

13-1. Disassembly (Fig. 4-2-13)

(1) Remove the Stopper Washer and remove the Brake Clutch.
(2) Remove the Stopper Washer and remove the Slide Washer after disassembly the Reel Ass'y (T).
(3) Remove the Reel Ass'y(S) and then remove the Slide Washer.
(4) Remove the Screw ⓐ and Sensor Bracket.
(5) Disassemble the Idler Gear Ass'y and remove Slide Washer.
(6) Remove the Cam spacer.
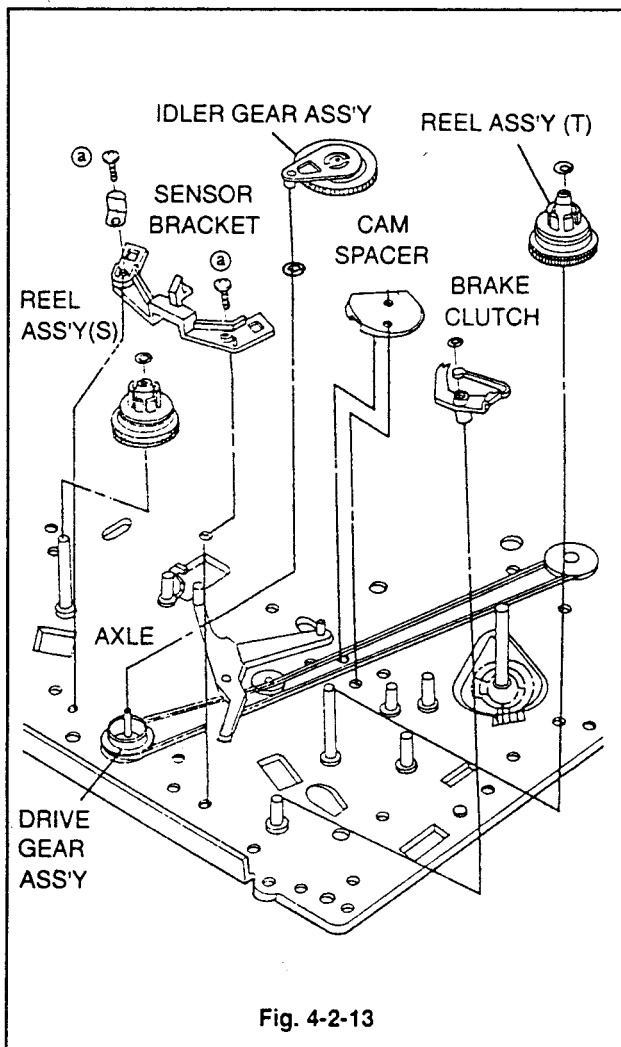
Fig. 4-2-13

13-2. Reassembly (Fig. 4-2-13)

(1) Stick the Guide Bosses 2 point of Cam Spacer in the Guider Bosses 2 point on the upper part of the Mechanism Chassis in the bottom of the Chassis by pushing from above to helow.

(2) Stick the Slide Washer on the Axle and then apply the Oil 1/2 drop and assemble the Idler Gear Ass'y on the Axle. (Flg. A).
During assembling the Idler Gear Ass'y, go in gear the idler Gear teeth with Gear teeth on the upper part of Drive Gear Ass'y.
(3) Stick the Guide Boss 2 point of Sensor Bracket in the Guide Holes 2 point on the upper part of Mechanism Chassis and set right part with Screw.
(4) Push the Spring Arm ⓐ of Brake Reel Ass'y to be supported to the side wall of Sensor Bracket.
(5) Stick the Slide Washer on the Axle and apply the Oil 1/2 drop to the Axle and assemble the Reel Ass'y (S). (Fig. B)
(6) Stick the Slide Washer on the Axle and apply the Oil 1/2 drop to the Axle and assemble the Reel Ass'y(T). (Fig. B)
⇒ Assemble the Reel Ass'y(T) carefully and go in gear the Brake Reel Ass'y teeth with Reel Ass'y (T) teeth by rotating the Lever Brake Ass'y to the direction of "R".
(7) Set the Stopper Washer on the Axle.
(8) Set the Brake Clutch and then the Stopper Washer on the Axle.
⇒ Assemble the bow of Brake Clutch to be Supported to the Side wall of Reel Ass'y(T).
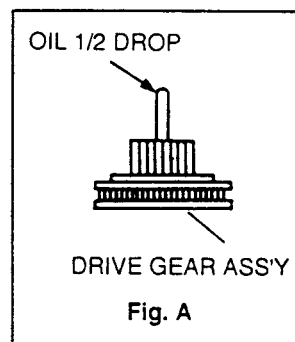
Fig. A
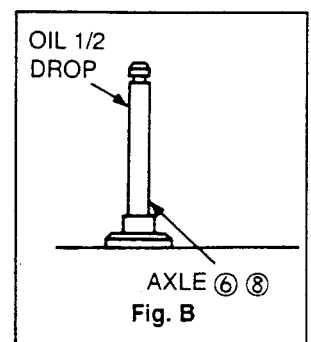
Fig. B

NOTES :

- Be careful so the bow of Brake Clutch is not to be transformed.
- Do not enguage with the Gears by forces, because the Idler Gear is easy to get demaged during the Idler Gear Ass'y.
- Be careful so the teeth is not to get demaged during assembling the Brake Reel Ass'y and Reel Ass'y(T).
- Do not force the Spring Arm unreafonably during the disassembly and reassembly of Spring Arm on the Brake Reel Ass'y, it may cause the transformation of Spring.
- Use the about 1.2kgf • cm Torque to set Screw.

14. BRAKE REEL ASS'Y, LEVER BRAKE ASS'Y, TIMING BELT, IDLER BELT, DRIVE GEAR ASS'Y, CONVERSION GEAR ASS'Y

14-1. Disassembly (Fig. 4-2-14)

(1) Remove the Stopper Washer and remove the Brake Reel Ass'y.
(2) Remove the Timing Belt. Release the Timing Belt stuck in the Idler Belt and then remove the Timing Belt from the Drive Gear Ass'y.
(3) Loosen the Stopper Washer, and remove the Idler Belt and Slide Washer.
(4) Remove the Drive Gear Ass'y and Slide Washer on the Axle.
(5) Loosen the Stopper Washer, and remove the Conversion Gear Ass'y and Slide Washer.
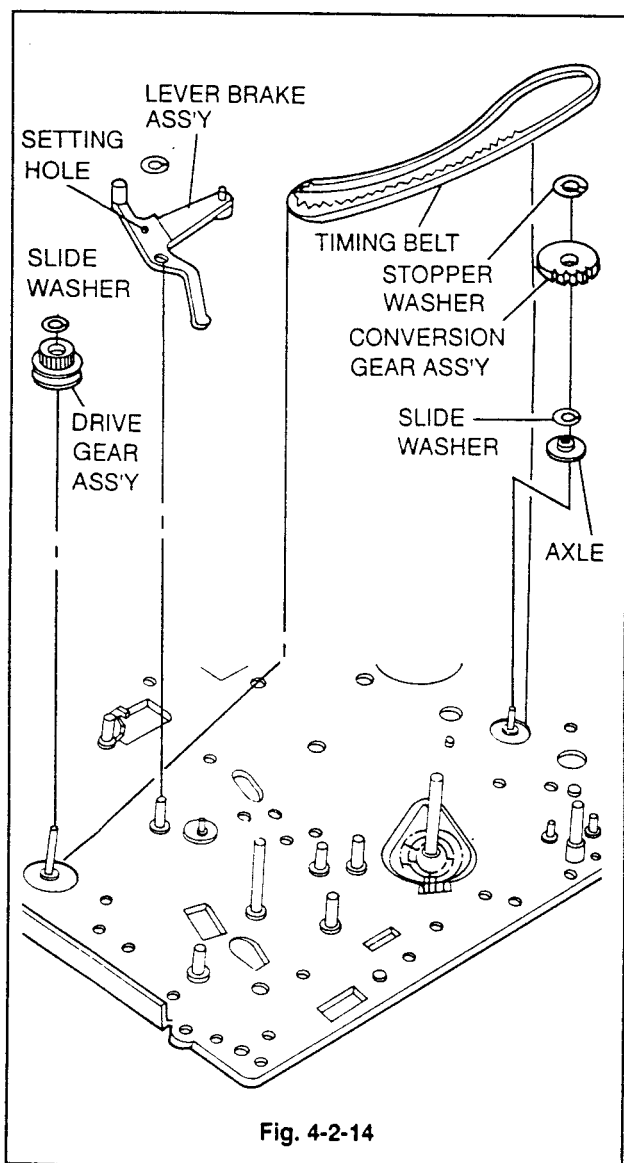
Fig. 4-2-14

14-2. Reaseembly (Fig. 4-2-14)

(1) Stick the slide washer on the Axle and apply the oil 1/2 drop on the Axle. (Fig A)

(2) Assemble the conversion Gear Ass'y on the Axle and set the stop washer.
(3) Assemble the slide wahser on the Axle and apply the oil 1/2 drop on the Axle. (Fig B)
(4) Assemble the Grive Gear Ass'y on the Axle.
(5) Stick the Idler Belt on the Axle and apply the oil 1/2 drop on the Axle.
(6) Assemble the Idler Belt on the Axle and set the stopper wahser.
(7) Assemble the Timing Belt. Hook the Timing Belt on the lower Gear of Conversion Gear Ass'y and assemble the vertical port(no teeth part) on the lower teeth part of Drive Gear Ass'y by hooking on the vertical part of IdlerBelt. (Fig. 4-2-13)
Apply the oil on the teeth of Timing Belt.
(8) Assemble the Lever Brake Ass'y on the Axle and set the stopper washer, and then fit the Guider Hole to the cognition hole by rotating the Lever Brake Ass'y.
(9) Stick the Lever Brake, on the Axle and set the Stopper Washer, At this time, assemble so the part "B" on the Lever Brake Ass'y is to be inserted in the Mouth part "A" on the Brake Reel Ass'y. (Fig. 4-2-13)

NOTE :
Do not force to be transformed unreasonably during the Timing Belt disassembly/assemly.

Fig. A

Fig. B

Fig. C
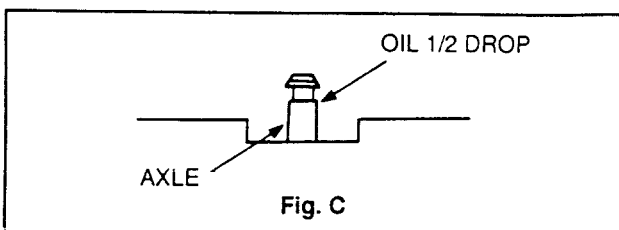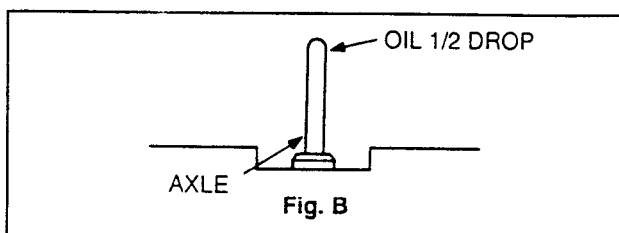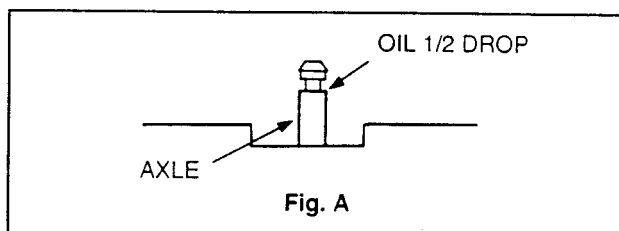
15. DRUM ASS'Y DISASSEMBLY

15-1. Disassembly
(1) Set the Unit to the ULC Mode (Unloading mode).
(2) Remove the Flexible Board and connector.
(3) Loosen the 3 screws on the Lower part of Chassis and remove the Drum Ass'y from the Drum Base Ass'y.

15-2. Reassembly
(1) Fit 2 Guider Bosses formed on the Drum Base Ass'y with the Guider refuge Holde on the Lower part of Drum Ass'y, and then set the Drum Ass'y with 3 screws through the Guide Hole of Drum Base Ass'y on the Lower Part of chassis.
(2) Link the connector to the Flexible Board.

NOTES :
• During the Flexible Board and connector disassembly/assembly, be careful to the Line Cutting or transformation.
• Do not touch the Head Tip.
• Readjust the Tape path of ter assembly.
• Use the about 2kgf • cm Torgue to set screw.

Fig. 4-2-15
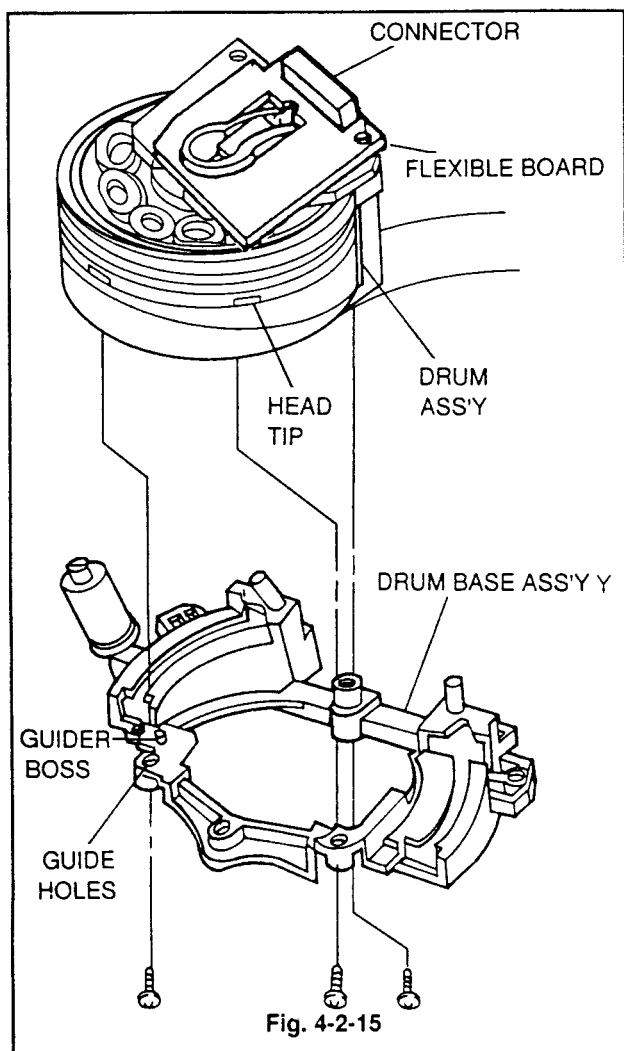
16. DRUM DISASSEMBLY

16-1. Disassembly
(1) Loosen 2Screws on the upper part of Drum Ass'y and remove the Motor Ass'y stator.
(2) Remove the lead from the soldering part on the Lower part of Drum Ass'y, and remove the Plate Signal by loosening 1 Screw.
(3) Remove the lead from the PWB Ass'y signal soldering part on the Lower part of Drum Ass'y and remove PWB Ass'y signal.

16-2. Reassembly
(1) Assemble the Drum to fit the PWB Ass'y signal Hole and the Drum Sub Ass'y pin properly, and solder on the soldering part of PWB Ass'y signal.
(2) Assemble the Plate Signal Ground on the Drum Sub Ass'y with 1 screw, an then Solder on the soldery part of Plate signal Ground.
(3) Assemble the Motor Ass'y Stator in the Bracket Stator Hole with 2 screws on the upper part of Drum Sub Ass'y.

NOTES :
• During the parts assembly, do not scratch on the surface of Drum.
• Be careful so the Video Head is not to be damaged.
• Solder carefully after assembling the PWB Ass'y Signal.
• Use the about 2kgf • cm Torgue to set screw.

Fig. 4-2-16
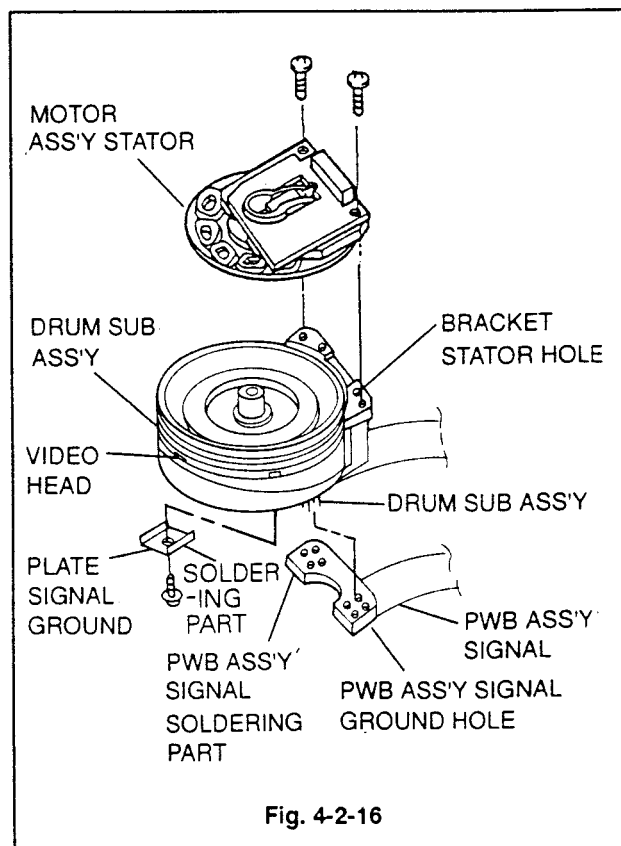
17. PCB ASS'Y DECK

17-1. Disasembly
(1) Remove 1 screw (4) and 1 screws (5) on the upper parts of chassis.
(2) Remove the Holder PRE-AMP 8 mm, BRACKET DECK 8mm after release, screw (6) and screw (7).
(3) Remove 3 screw (8) and remove the solder of Mode switch, LED.
(4) Remove the PCB ASS'Y DECK JUNTION.

17-2. Reassembly
Perform the reassembly to the reverse order of assembly above.

SENSOR ASSY DEW

(1)

BRACKET DECK 8mm

HOLDER PRE-AMP 8mm

(7)

(6)

CN4-2

CN5

(8)

(8)

END SENSOR

(2)

SWITCH AY I/O

SWITCH ASSY RECOG (R)

REEL SENSOR

LED

(UPPER PARTS)

(LOWER PARTS)

Fig. 4-2-17
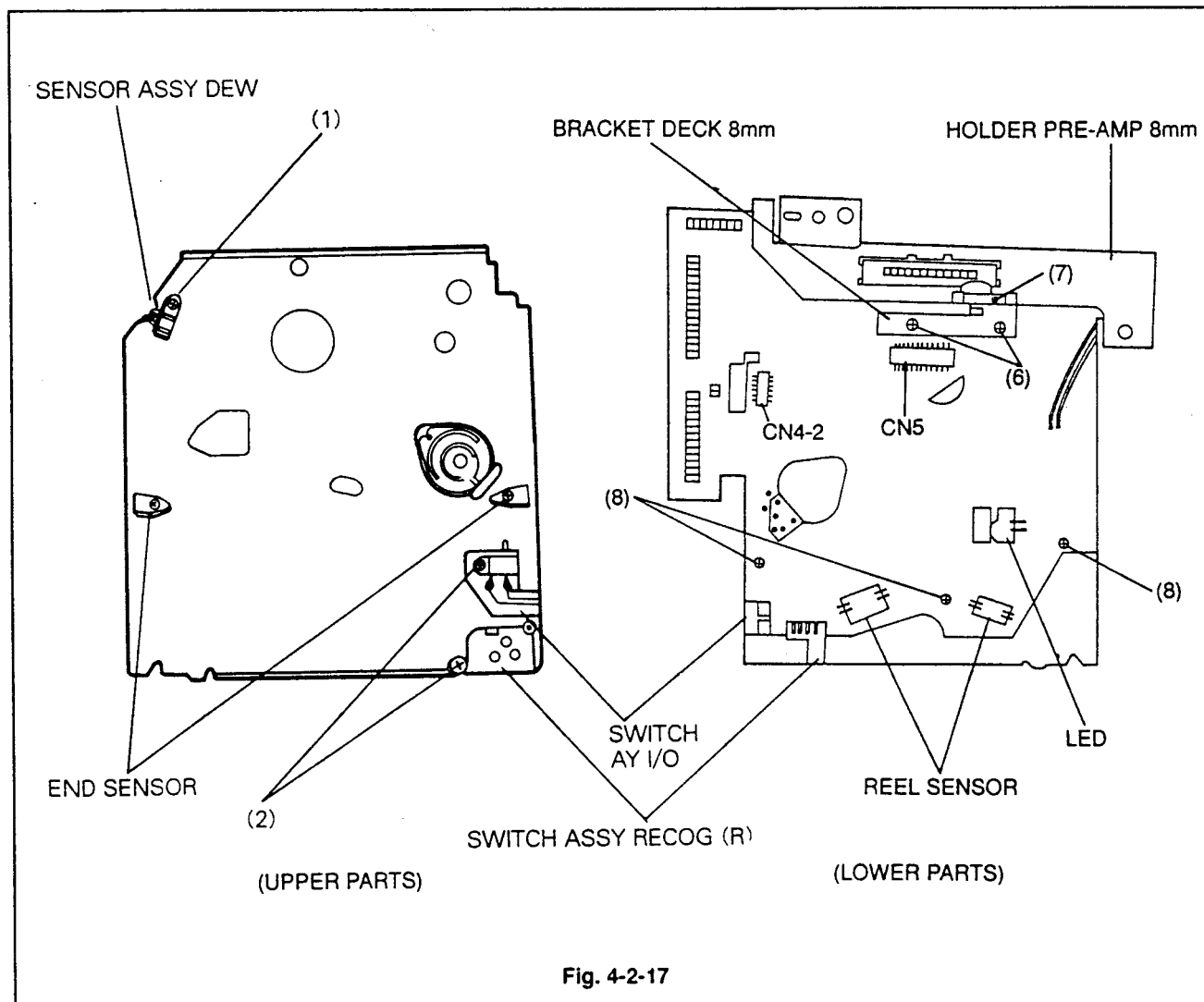
DECK MECHANISM ADJUSTMENT

1. DECK LOADING SYSTEM LAY-OUT

Fig. 4-3-1
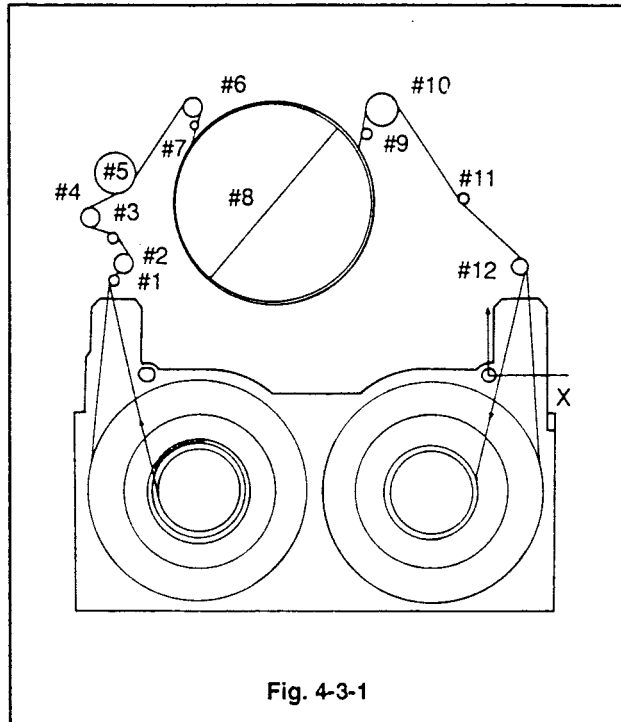
#1 : TENSION POST (ϕ2)

#2 : GUIDE ROLLER (N) (ϕ4)

#3 : SLANT POST (ϕ2)

#4 : GUIDE ROLLER (ϕ4)

#5 : INERTIA ROLLER (=P1) (ϕ8)

#6 : GUIDE ROLLER (S) (=P2) (ϕ4)

#7 : SLANT POST (S) (ϕ2)

#8 : DRUM (ϕ40)

#9 : SLANT POST (T) (ϕ2)

#10 : GUIDE ROLLER (T) (=P3) (ϕ6)

#11 : CAPSTAN (ϕ1.995)

#12 : TAKE UP GUIDE (=P4) (ϕ3)

2. PREPARATIONS

① Cleaning water.
② Chanois cloth.
③ Cotton stick
④ Dental mirror.
⑤ Torque CST Tape, Alignment Tape and
   PLAY/RECORDING Tape.
⑥ Hexagonal Wrench(0.89mm) or L-Wrench.
⑦ Small(-) Driver⟹P1, P4 Adjustment.
⑧ Loading adjustment stick⟹P2, P3, P4 adjustment.
⑨ Circuit jig for Deck adjustment.

3. LOADING POST FIRST HEIGHT ADJUSTMENT

P1 (INERTIA ROLLER)

P2, P3 (GUIDE ROLLER)

U-STOPPER

D/BASE V-STOPPER PART

CST REFERENCE

P4 (TAKE UP GUIDE)
Fig. 4-3-2
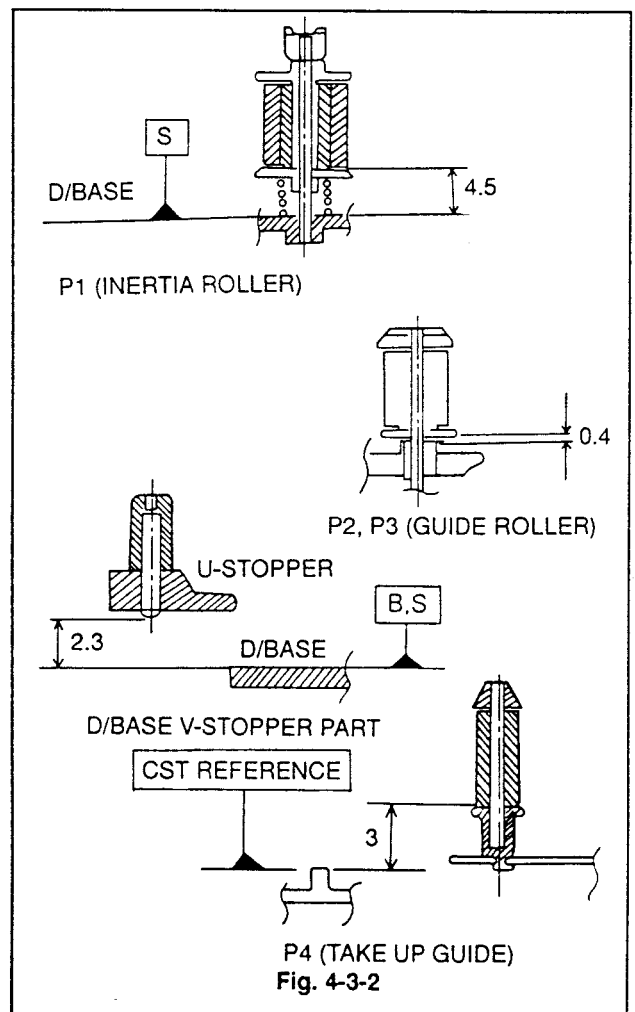
4. TENTION ARM POSITION AND BACK TENTION ADJUSTMENT

4-1. Tension Arm position Adjustment

(1) Set the Deck mechanism to the Ope-Mode in No Tape state ⇒using the Circuit Fixture.

(2) Check the gab between ⌀3 Boss of Arm Slant Roller and Cap of Arm Tension is 0.5~1.0 mm. If the gab is over the range, adjust as follows.

(3) Remove the screw on the Bracket fixing the Band Ass'y.

(4) Set the Bracket to the desired position by pushing to the direction of A or B and then set the screw.

Fig. 4-3-3
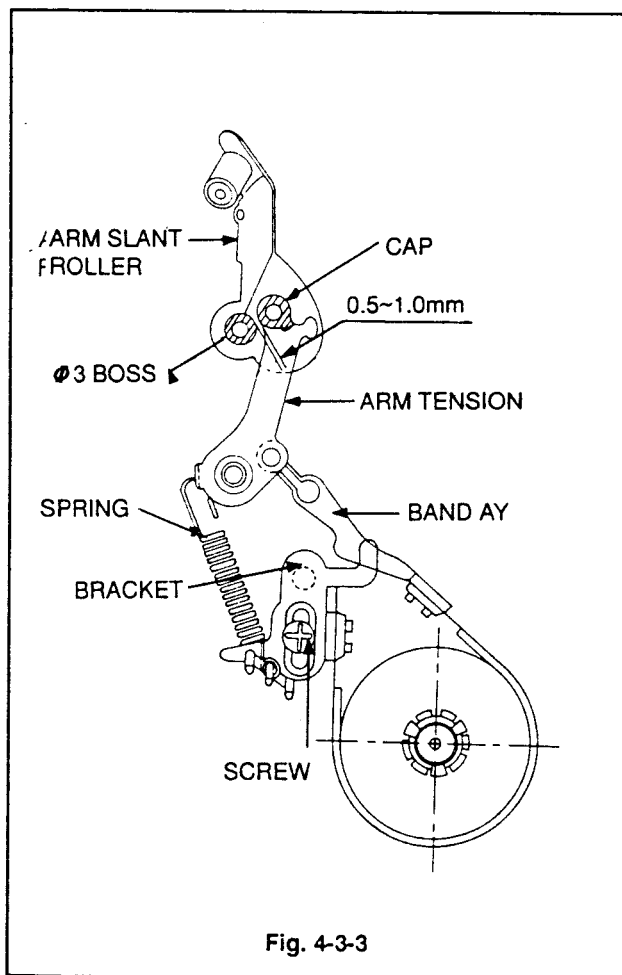
4-2. Back Tension Adjustment

(1) After step 4-1 Adjustment, insert the Torque CST Tape in the Unit and set to the Ope-Mode.

(2) Check the Back Tension Torgue of Supply side is in 6.5±2 (gf-cm).

(3) If the measuring value is more than the range, hook the spring of Bracket to (c), and if the value is less than hook to (D).

(4) Check the Back Tension is in the range by performing the Step 1) and 2) repeatedly.

Fig. 4-3-4
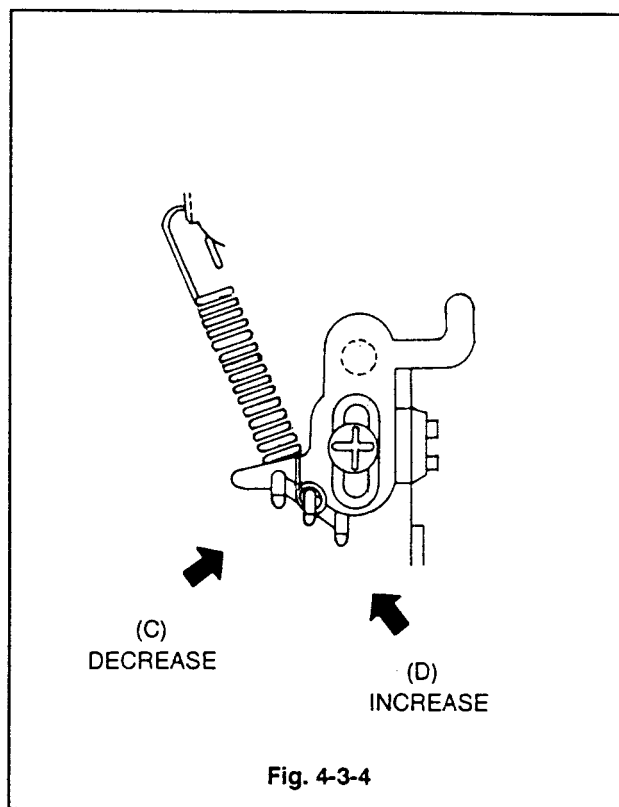
1-5. REEL TORQUE CHECK

Inset the Torque CST Tape in the unit and check the spec as follows;

MODE	UNIT	SPEC	REMARKS
OPC CUE	gr · cm	12.5±4	At T/up Reel
REVERSE		35±6	At Supply Reel
REVIEW		12.5±4	At T/up Reel

6. TAPE PATH ADJUSTMENT

The 8mm Video can control the Tape speed instantaneously using the pilot signal, and adjusst very correctly using the ATF(Automatic Track Finding) method, so the adjustment by Tracking control knob is not need. But in case of ATF method, the Tape Path adjustment is difficult. That is, the perfect adjustment is difficult through the ATF method, because it compensates the Head Tracking Error to extent. Therefore, select the Track shift Mode for is possible and the Tracking control is easy. NOTE for P4 Guide (# 12) .

NUT ADJUSTMENT

Fig. 4-3-5
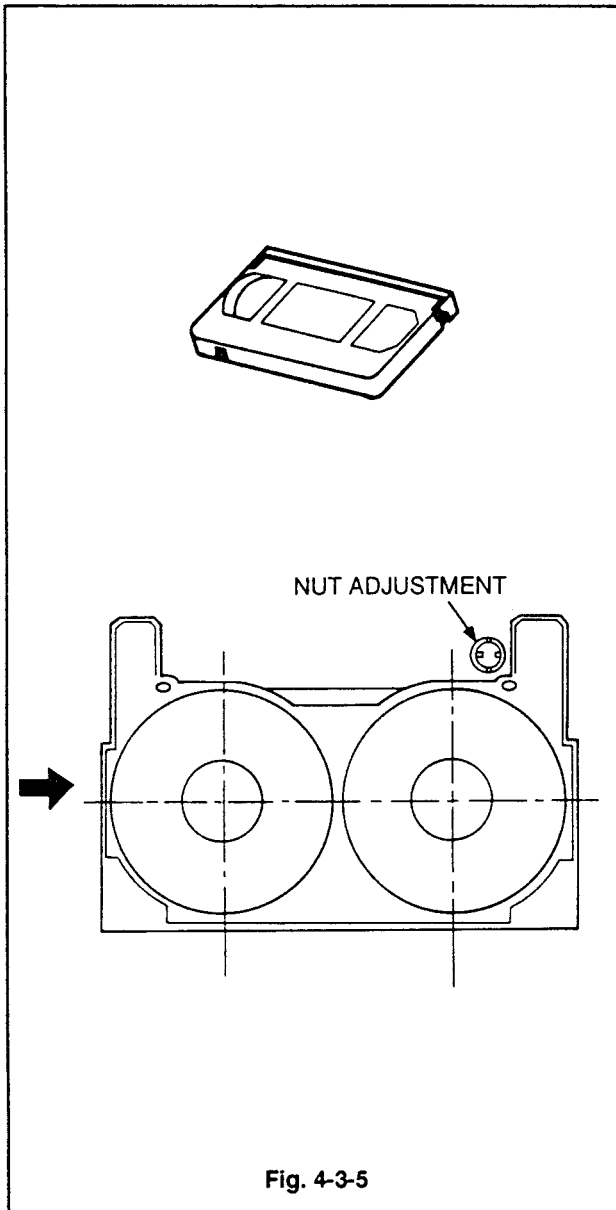
6-1. Adjustment preparation
(1) Wipe the Tape path. (Tape Guides, Drum, Capstan Shaft, Pinch Rollor)
(2) Set the oiscilloscope for the Waveform Output.
(3) Play Back the alignment Tape for Tracking control.
(4) Chck the RF Waveform of Oscilloscope in the Entrance/Exit is flat Otherwise, adjust as follows;

• WAVEFORM

MUST BE FLAT

Fig. 4-3-6
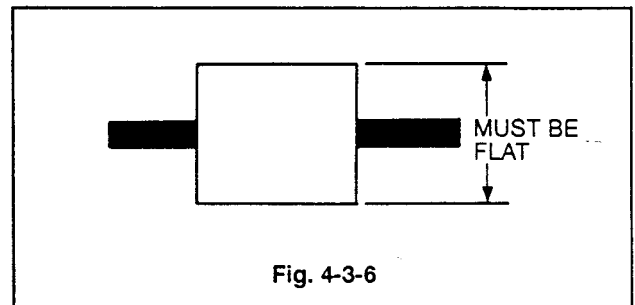
6-2. Tracking Control
(1) Playback the Aligment Tape for Tacking contrl.
(2) Using the Running Control stick, rotate the P2-Guide so the waveform of entrance side is to be flatted.
(3) Using the Running control stick, ortate the P3-Guide so the waveform of exit side is to be flatted.

6-3. Tracking Fine Adjustment
(1) Playback the Alignment Tape for Tracking control and set the unit to the Track shift mode.
(2) Check the waveform is flat. Otherwise, roate the P2-Guide and P3-Guide so it is to be flatted.
(3) Set the Lock screw of P2 side using the Hexaponal Wrench 4 L-Wrench, etc. At this time, check the entrance of waveform is not change.
(4) Set the Lock Screw in the P3 side using the hexaponal Wrench 4 L-Wrench, etc. At this time, check the exit side of waveform is not changed.

• WAVEFORM

$\frac{3}{4}A$ A

Fig. 4-3-7
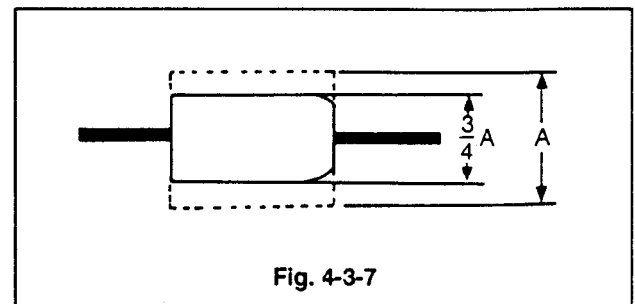
6-4. P1-Guide (Inertia Roller) Adjustment

(1) Playback the P6-120MP Tape, and then set the unit to REV Mode.
(2) Check the distortion is occurred in the Lower Flange of P1-Guide. If it appears, bring the Cap of P1-Guide a lower by rotating it to the clockwise with the driver until the tape is flatted.
(3) Playback the Alignment tape for the Tracking control.
(4) Perform the Tracking Control and Tracking Fine Control.
(5) In the Track Shift state, playback the tape again after CUE/REV. At this time, check the RF Waveform is stabled horizontality in 2secs.
(6) If not, rotate the cap of P1-Guide to an angle of 90 degrees of counter-clockwise and then perform step 5 again.

Fig. 4-3-8
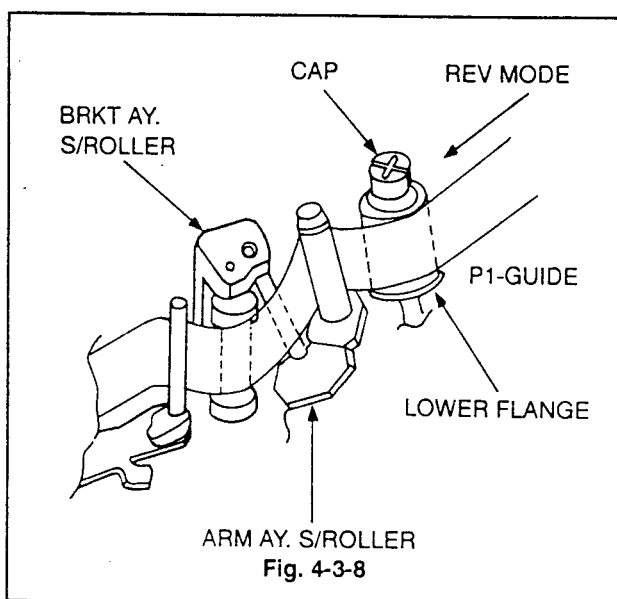
NOTES :

① Repeat Step(5),(6) until the normal waveform ranged is become. At this time, if the RF waveform is changed, perform the Track Fine adjustment of Entrance side and then repeat step(5) again.
② Druing FF/REW Mode, check the Curl or Tape Jam are occurred on the #4 Guide Roller Upper/Lower Flange of Bracket AY, S/Roller.

• WAVEFORM

Fig. 4-3-9
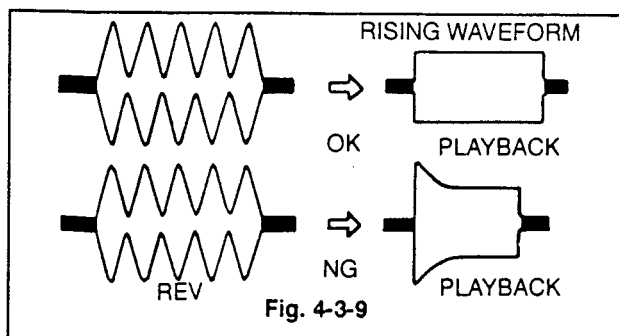
6-5. P4-Guide(T/Up Guide) Adjustment

(1) Playback the Alignment Tape for Tracking control and set the unit to the REV-Mode.
(2) Check the Tape transformation is not occurred between the P3-Guide and Capstan Shaft. If it occurs, rotate the P4-Guide Height Adjustment Cap until the Tape transformation is ridded.
(3) Set the unit to the playback Mode, and then check the Tape transformation is not occurred between the Capstan shaft and P4-Guide(within 0.5mm) If the Tape transformation is more than 0.4mm, adjust the P4-Guide Height unil it is become within 0.5mm.

NOTES :

• When the unit is set to the REV*Mode. it is good adjustment that the transformation between P3-Guide and Capstan Shaft is appeard within 0.3mm.
• The Upper/Lower Tape Tension distribution in the P2,P3-Guide must be as follows;

Fig. 4-3-10
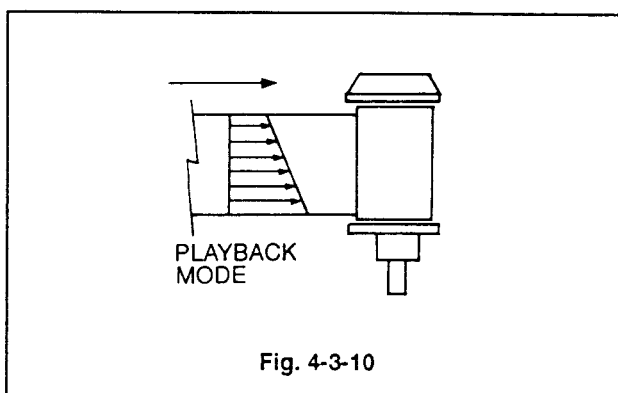
6-6. CUE/REV Waveform check

(1) Playback the Alignment Tape for Tracking control and then set the unit to the REV Mode. Check the top of each waveform is sustained with the regular width of 5 or more than 5. Otherwise, perform Item 6-3.
(2) Set the unit to the CUE-Mode. Check otherwise, perform item 6-3.

• WAVEFORM

Fig. 4-3-11
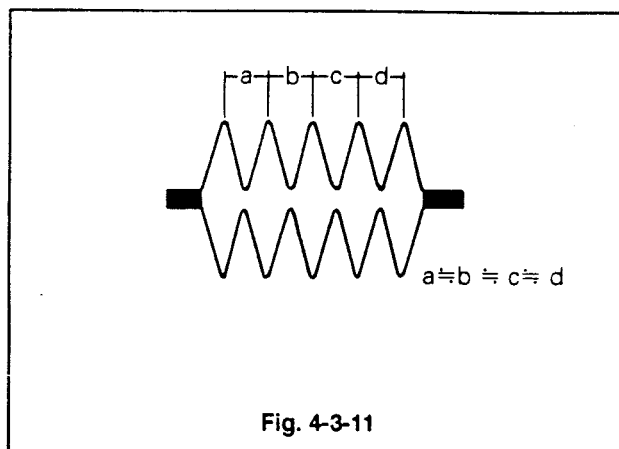
6-7. Check after Adjustment

(1) Tracking Check

    1) Check the width of RF Wavefrom is reduced to about 3/4 when do the unit set to the Track Shift position.

• WAVEFORM

Fig. 4-3-12
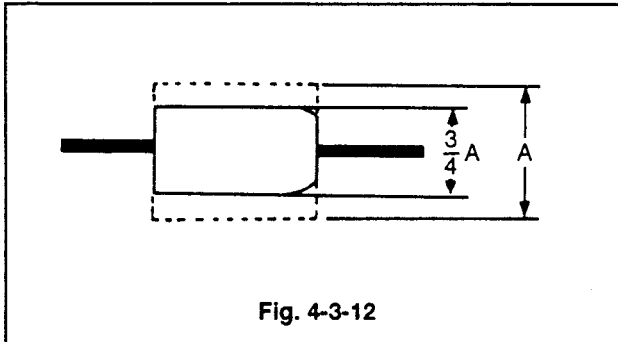
    2) Check the Minimum width (Emin) is the 65% of Maximum Width (Emax) or more than 65%.

• WAVEFORM

Fig. 4-3-13
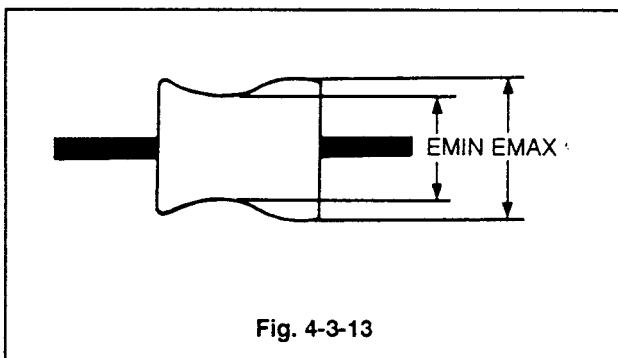
    3) Check the Waveform is not changed greatly.

(2) Rising Check

    1) Playback an Alignment Tape for Tracking Control.

• WAVEFORM

Fig. 4-3-14
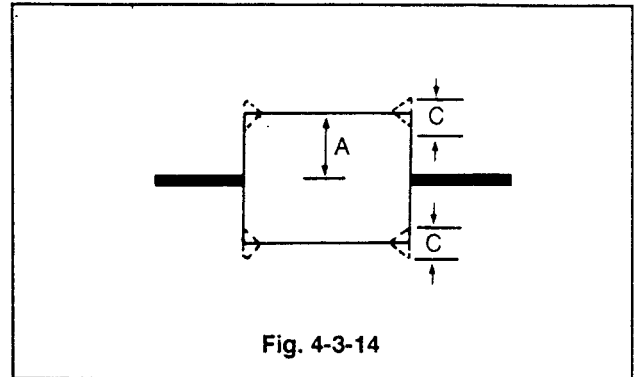
    2) Release the Tracking Shift State.

    3) Unload the tape and load again.

    4) Set the Unit to the PLAY mode and check the RF Waveform is stabilized within 2 Secs, horizontally, Also, check the tape is distorted around the Pinch Roller.

    5) Set the Unit to the CUE/REV and FF/REW modes and then playing back again, check the RF Waveform is stabilized within 2 Secs, horizontally, Also, check the tape is distorted around the Pinch Roller.

    6) Check the process from 3) to 5) repeatedly.

(3) TAPE PATH Adjustment

    1) Playback the P_6-120MP (NTSC) or P_5-90MP (PAL) Cassette Tape.
    Check the Tape gets on or the Tape folded state is within 0.3mm in the following flanges;
    ① Upper and Lower Flange of #2 Guide.
    ② Lower Flange of #5 P1-Guide
    ③ Upper Flange of #6 P2-Guide
    ④ Upper Flange of #10 P3-Guide
    ⑤ Upper and Lower Flange of #12 P4-Guide

    2) During Playback Mode, press the FF key to set CUE Mode or press the REW key to set REV Mode, and at this time, check the Tape gets on or the Tape folded state is within 0. 3mm in the following flages.

Fig. 4-3-15

4. EXPLODED VIEW

4-1. CASSETTE HOUSING SECTION

4-2. CHASSIS MECHANISM SECTION
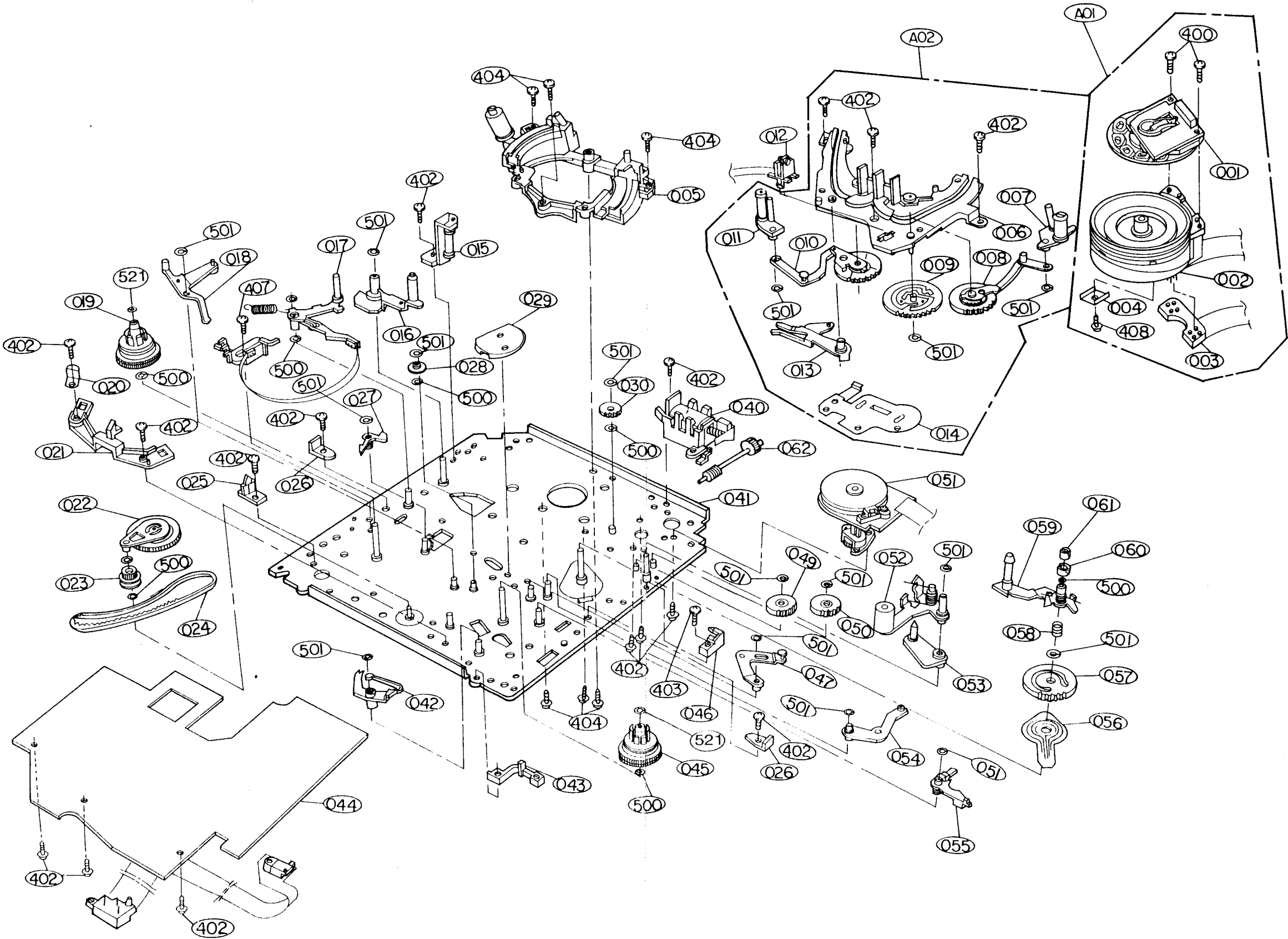
SECTION 5 REPLACEMENT PARTS LIST

1. Mechanical Section

1-1. VHS Mechanism

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A00	412-126B	DECK	ASSY D-17 (4HD VCR PAL)	
	OR	A00	412C126B	DECK	ASSY D-17	
	OR	A00	412G126B	DECK	ASSY D-17	
	OR	A00	412H126B	DECK	ASSY D-17	
	OR	A00	412W126B	DECK	ASSY D-17	
		A01	413-303B	DRUM	ASSY D17 F5CH (PAL)	
		A02	386-296B	ARM	ASSY CL	
	OR	A03	311-005G	CHASSIS ASSY'	D17	NSP
		A03	311-005M	CHASSIS ASSY'	D17	NSP
		A04	456-048A	REEL	ASSY SUPPLY POM 7G	
		A05	456-045A	REEL	ASSY T/UP POM 7G	
		A06	321-397D	BRACKET	ASSY F/R	
		A07	225-228A	BASE	ASSY A/C	
	OR	A08	225-248A	BASE	ASSY,P2	
		A08	225-248B	BASE	ASSY P2 (W-W)	
	OR	A09	225-249A	BASE	ASSY,P3	
		A09	225-249B	BASE	ASSY P3 (W-W)	
		A10	414-104A	MOTOR	ASSY LOAD	
		A11	333-209E	LEVER	ASSY PINCH	
		A20	321-401A	BRACKET	ASSY BOTTOM	
		A21	333-208A	LEVER	ASSY RAT	
		A22	338-078A	BRAKE	ASSY CAP	
		A23	386-218A	ARM	ASSY LOAD(R)	
		A24	386-219A	ARM	ASSY LOAD(L)	
		A25	511-997B	PWB ASSY!	D-17, VCR	
		A30	219-017F	HOUSING	ASSY (D17)	
		A32	435-257B	GEAR	ASSY DRIVE (HOOK ADDED)	
		A33	321-406A	BRACKET	ASSY CARRIER	
		A34	321-441A	BRACKET	ASSY SIDE	
		A35	515-106A	PWB ASSY	SENSOR	
				PARTS SECTION		
		001	413-304B	DRUM	ASSY UPPER (D17-F5CH)PAL	
		002	413-305A	DRUM	ASSY,LOWER (D17-F5CH)	
		005	225-231B	BASE	ASSY D-BRUSH	
	OR	006	225-220A	BASE	DRUM	NSP
		006	225-220B	BASE	DRUM (W-W)	NSP
	OR	006	225-220C	BASE	DRUM (Y-H)	NSP
		007	386-297A	ARM	SUB ASSY CU	
		008	442-460B	SPRING	CU	
		009	442-459A	SPRING	CL	
		010	386-295B	ARM	CL	
		012	384-071A	GUIDE	17	
		014	378-017A	SLEEVE	P1	
		015	434-178A	ROLLER	P1	
	OR	015	434-178B	ROLLER	P1	
		016	389-003B	ADJUST	P(4)	
		018	386-205A	ARM	ASSY TENSION	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		019	442-331C	SPRING	TENSION	
		020	328-052B	BAND	ASSY TENSION	
		021	334-066A	STOPPER	P1	
		027	435-243A	GEAR	IDLE A POM 3G	
		028	435-244A	GEAR	IDLE B POM 3G	
		029	456-040A	REEL	T17	NSP
		030	442-341A	SPRING	REEL	NSP
		031	276-068A	CAP	REEL	NSP
		032	456-039A	REEL	S17	NSP
		036	435-240A	GEAR	F/R POM 3G	
		037	442-336A	SPRING	UP/D	NSP
		038	435-239A	GEAR	UP/D POM 3G	NSP
		040	333-201B	LEVER	ASSY F/R	NSP
		044	442-338B	SPRING	SSB	NSP
		045	338-081A	BRAKE	S-SOFT	NSP
		046	442-337A	SPRING	SMB	NSP
		047	338-080A	BRAKE	ASSY S-MAIN	NSP
		048	442-339D	SPRING	TSB	NSP
		049	338-083A	BRAKE	ASSY T-SOFT	NSP
		050	321-396A	BRACKET	SUB ASSY F/R	NSP
		054	389-013A	ADJUST	X-ASSY	
		056	378-018A	SLEEVE	P4	
		060	442-343A	SPRING	T/UP	
		061	386-387B	ARM	ASSY T/UP	
		065	442-332A	SPRING	A/C	
		066	225-219A	BASE	SUB ASSY A/C	NSP
		068	523-089A	HEAD	SUB ASSY A/C	
		069	442-362A	SPRING	AZIMUTH	
		070	338-085A	BRAKE	ASSY T-MAIN	
		071	442-344A	SPRING	TMB	
		074	434-173A	ROLLER	ASSY GUIDE	
		075	353-054B	SCREW	MINIATURE	
		076	225-226B	BASE	SUB ASSY SLALT (L,W-W)	
		077	225-225B	BASE	SUB ASSY SLALT (R,W-W)	
		081	414-105A	MOTOR	SUB ASSY,L	
		082	437-009A	WORM	ASSY	
		083	321-410A	BRACKET	SUB ASSY L/M	
		084	433-023A	WHEEL	WORM	
		087	321-470A	BRACKET	ASSY DEW	
		088	435-448A	GEAR	PINCH (N)	
		090	442-347A	SPRING	PINCH	NSP
		091	386-210A	ARM	ASSY PINCH	NSP
		092	442-346A	SPRING	STOPPER	NSP
		093	334-050C	STOPPER	PINCH	NSP
	OR	094	434-181A	ROLLER	ASSY PINCH	
		094	434-181B	ROLLER	PINCH D14 X L18	
		095	276-089B	CAP	PINCH	NSP
		096	333-203A	LEVER	PINCH	NSP
		098	333-344A	LEVER	T-UP (N)	
		100	321-463A	BRACKET	SUB ASSY B	NSP
		102	435-249A	GEAR	RAT1	NSP
		103	442-356A	SPRING	F-LEVER	NSP
		104	356-208A	PIN	F-LEVER	NSP
		106	442-345A	SPRING	RAT	NSP
		107	333-202A	LEVER	RAT	NSP

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		108	333-207A	LEVER	F17	NSP
		110	374-005A	CAM	D17 POM 10G	
		111	435-318A	GEAR	ASSY RACK F/L	
		112	435-291A	GEAR	ASSY RACK T	
		113	435-246A	GEAR	PC POM 3G	
		114	414-121B	MOTOR	CAPSTAN, GVC017S	
		115	452-047A	BELT	CENTER D71.9 X SQRT2.0	
		116	256-734A	PLATE	F17	
		117	442-342B	SPRING	FP	
		120	338-089A	BRAKE	SUB ASSY CAP	
		121	442-333A	SPRING	CAPSTAN	
		122	432-038A	PULLEY	GEAR POM 3G	
		130	337-005A	CLUTCH	ASSY POM 7G FELT 20X1X1T 2EA	
		131	324-643A	HOLDER	LED	
		132	324-642A	HOLDER	R/S	
		133	513-494B	PWB	JUNCTION D-17 242X121X1.6T	NSP
		134	556-133A	SWITCH	MODE	
OR		134	556-133B	SWITCH	MODE, ALPS	
OR		135	0DL451000AA	DIODE LED	IR SENSOR GL451(LONG) SHARP	
		135	0DL550000AB	DIODE LED	IR SENSOR EL-55L(LONG) KOC	
		136	657-102K	SENSOR	SG-105(REEL) D-16 KOC	
		137	556-131A	SWITCH	ESE-105SV1	
		138	435-234A	GEAR	LOAD(R)	
		139	442-330A	SPRING	LOADING	
		140	386-274A	ARM	SUB ASSY (R)	
		142	435-235A	GEAR	LOAD(L)	
		143	442-330B	SPRING	LOADING	
		144	386-273A	ARM	SUB ASSY (L)	
		146	333-218A	LEVER	ASSY A-TEN	
		150	321-527A	BRACKET	ASSY C-GUIDE	
		201	256-934B	PLATE	TOP	
		204	465-026A	OPENER	DOOR	
		205	321-517B	BRACKET	LEFT (D17)	
		206	321-518A	BRACKET	RIGHT (D17)	
		207	435-278A	GEAR	RACK N/D	
		208	256-910A	PLATE	GND TOP	
		210	321-440A	BRACKET	SIDE	
		213	442-351A	SPRING	OC	NSP
		214	465-028A	OPENER	CST	NSP
		215	442-357A	SPRING	RID	NSP
		216	465-027A	OPENER	RID	NSP
		217	324-647A	HOLDER	R	NSP
		218	321-407A	BRACKET	SUPPORT	NSP
		219	321-405A	BRACKET	CARRIER	NSP
		220	324-646A	HOLDER	L	NSP
		221	333-210A	LEVER	DT	NSP
		222	442-358B	SPRING	DT	NSP
		225	384-074A	GUIDE	CST	
		226	442-352A	SPRING	L	NSP
		227	435-254A	GEAR	L	NSP
		228	442-350A	SPRING	S/W	
		229	333-204A	LEVER	S/W	NSP
		230	423-368A	SHAFT	D	NSP
		231	442-353A	SPRING	R	NSP
		232	435-255A	GEAR	R	NSP

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		233	435-256B	GEAR	C (HOOK ADDED)	NSP
		234	442-359C	SPRING	CUSHION (D17F/L)	NSP
		235	442-354A	SPRING	CC	NSP
		236	276-086A	CAP	DRIVE	NSP

SCREW

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		400	1MDC0302418	PAN HEAD MACHINE SCREW P/WASH+	D 3.0 L 8.0 MSWR3/FZY	
		401	1MPK0261418	PAN HEAD MACHINE SCREW +,-	D 2.6 L 4.0 MSWR3/FZY	
		402	353-021D	SCREW	SPECIAL	
		404	353-048C	SCREW	CONE POINT 3X10	
		408	1MBC0302418	BINDING HEAD MACHINE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		411	353-046B	SCREW	SPECIAL (3X8 FZMY)	
		412	1MBC0302818	BINDING HEAD MACHINE SCREW +	D 3.0 L 12 MSWR3/FZY	
		421	1MPC0302618	PAN HEAD MACHINE SCREW +!	D3.0 L10.0,MSWR3/FZY	
		422	1MPC0302418	PAN HEAD MACHINE SCREW +!	D 3.0 L 8.0 MSWR3/FZY	
		425	1SRF0302418	BRAIZER HD TAP TITE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		426	1MPC0302018	PAN HEAD MACHINE SCREW +!	D 3.0 L 6.0 MSWR3/FZY	

NUT, WASHER

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		503	354-020E	WASHER	STOPPER	
		504	354-001B	WASHER	P.S D3.1XD6X0.5T	
		505	354-080E	WASHER	STOPPER	
		506	352-025A	NUT	NYLON M3	
		507	354-020J	WASHER	STOPPER(2.6X4.8X0.5)	
		511	354-080C	WASHER	STOPPER	
		512	354-080E	WASHER	STOPPER	NSP
		513	354-080A	WASHER	STOPPER	NSP
		514	354-080B	WASHER	STOPPER	NSP
		516	354-033B	WASHER	STOPPER	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A00	412-133A	DECK	SUB ASSY D-21 (F/L)	
		A01	413-306A	DRUM	ASSY	
		A02	225-282A	BASE	ASSY LOADING	
		A30	219-021A	HOUSING	ASSY F/L (D-21)	
		A80	412-132A	DECK	ASSY D-21 (F/L)	
				PARTS SECTION		
		001	414-156C	MOTOR	D-21 STATTOR,DRUM DM-21	NSP
		002	413-352A	DRUM	SUB ASSY	
		003	515-655B	PWB ASSY!	DRUM SIGNAL	NSP
		004	255-148A	PLATE	SIGNAL GROUND	
		005	225-279A	BASE	ASSY DRUM	
		006	225-283A	BASE	SUB ASSY LOADING	
		007	225-285A	BASE	ASSY S/POST(T)	
		008	435-329A	GEAR	SUB ASSY LOADING(T)	
		009	435-327A	GEAR	CAM	
		010	435-332A	GEAR	SUB ASSY LOADING(S)	
		011	225-288A	BASE	ASSY S/POST(S)	
		012	657-031A	SENSOR	ASSY LED	
		013	333-264A	LEVER	ASSY DRIVE	
		014	255-058A	PLATE	L/BASE	
		015	321-535A	BRACKET	ASSY SLANT GUIDE	
		016	386-310A	ARM	ASSY SLANT ROLLER	
		017	386-313A	ARM	ASSY TENSION	
		018	333-254A	LEVER	ASSY BRAKE	
		019	375-015A	DISC	ASSY REEL(S)	
		020	222-019A	PROTECTOR	T/BAND	
		021	321-534A	BRACKET	SENSOR	
		022	386-307A	ARM	ASSY IDLER	
		023	435-323A	GEAR	ASSY DRIVE	
		024	452-054A	BELT	REEL DRIVE (YAMAUCHI)	
		025	322-051A	SUPPORTER	CST	
		026	657-032A	SENSOR	ASSY END	
		027	338-093A	BRAKE	ASSY SOFT	
		028	431-028A	IDLER	BELT	
		029	445-005A	SPACER	CAM GEAR	
		030	435-334A	GEAR	ASSY CONVERSION	
		040	414-137B	MOTOR	ASSY LOADING	
		041	313-041B	CHASSIS	ASSY MAIN(F/L)	NSP
		042	338-104A	BRAKE	CLUTCH	
		043	321-533A	BRACKET	RECOG S/W	
		044	515-680A	PWB ASSY!	ASSY JUNCTION	
		045	375-016A	DISC	ASSY REEL(T)	
		046	324-823A	HOLDER	SHAFT	
		047	333-267A	LEVER	ASSY T/UP	
		049	435-321A	GEAR	MIDDLE	
		050	435-348A	GEAR	ASSY TRANSFER	
		051	414-141A	MOTOR	D-21 CAPSTAN MOTOR GSD	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		052	386-319A	ARM	ASSY PINCH	
		053	333-271A	LEVER	ASSY PINCH	NSP
		054	333-269A	LEVER	ASSY MODE	
		055	333-286A	LEVER	ASSY EJECT	
		056	504-476A	PWB	MODE S/W	
		057	435-347A	GEAR	ASSY MODE	
		058	442-486A	SPRING	T/UP ARM(C)	
		059	386-316A	ARM	ASSY T/UP	
		060	352-028A	NUT	T/UP ARM(A)	
		061	352-030A	NUT	T/UP ARM(B)	
		062	423-483A	SHAFT	ASSY WORM(L)	
		100	333-323A	LEVER	ASSY LOADING (L)	NSP
		101	257-058A	PLATE	GEAR	
		102	435-399A	GEAR	A	
		103	435-401A	GEAR	C	
		104	435-400A	GEAR	B	
		105	435-402A	GEAR	D	
		106	225-329A	BASE	SIDE (L)	
		107	257-057A	PLATE	SIDE BASE	
		108	414-162A	MOTOR	ASSY HOUSING	
		110	577-014A	PRISM	END SENSOR	
		111	225-332A	BASE	ASSY LOADING	
		112	257-060A	PLATE	ASSY BASE	
		113	225-328A	BASE	SIDE (R)	
		114	333-319A	LEVER	SWITCH	NSP
		115	333-320A	LEVER	DOOR	NSP
		116	442-593A	SPRING	LOCK(L)	
		117	333-318A	LEVER	LOCK	NSP
		118	333-322A	LEVER	ASSY LOADING (R)	NSP
		119	256-889A	PLATE	CGND	
		342	321-638A	BRACKET	ASSY DECK (8MM)	

SCREW

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		400	353-078B	SCREW	MACHINE+2X9	
		401	353-152A	SCREW	PS (M1.7X2)	
		402	353-153A	SCREW	PS (M2X3)	
		403	353-153B	SCREW	PS(M2X4)	
		404	353-153C	SCREW	PS (M2X5)	
		405	353-153D	SCREW	PS (M2X6)	
		407	353-091C	SCREW	SPECIAL M	
		408	1MFU0201418	FLAT HEAD MACHINE SCREW PREC 1	D 2.0 L 4.0 MSWR3/FZY	
		415	353-062A	SCREW	STEP	

NUT, WASHER

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		500	354-101A	WASHER	SLIDE (1.5TX3.0X0.13)	
		501	354-099A	WASHER	STOP(1.25X3.0X0.25)	
		502	354-104A	WASHER	STOP (2.2X5.0X0.25)	
		520	354-048E	WASHER	PS+D6XD2.6XT0.5	
		521	354-120A	WASHER	REEL STOP	

2. Cabinet & Main Frame Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A40	315-314C	FRAME	ASSY MAIN	NSP
		A41	232-683B	BOARD ASSY	KEY (8MM)	
		A42	232-912S	BOARD ASSY	VHS KEY & TIMER	
		A43	258-597L	PANEL	ASSY FRONT	
		A44	232-868S	BOARD ASSY	POWER1	
		A45	232-865P	BOARD ASSY	VHS PRE-AMP	
		A46	232-864P	BOARD ASSY	MAIN (C+,VCR+)	
		A47	232-911P	BOARD ASSY	8MM PRE-AMP	
		A48	232-867P	BOARD ASSY	8MM MAIN	
				PARTS SECTION		
		250	217-472B	CASE	TOP	
		251	321-526A	BRACKET	HOUSING	
		260	315-300B	FRAME	MAIN	NSP
		262	257-061A	PLATE	GND (FTZ)	NSP
		263	324-976A	HOLDER	PWB	NSP
		275	324-872A	HOLDER	DIGITRON	.
		280	258-552E	PANEL	FRONT	NSP
		282	226-072K	DOOR	ASSY FRONT	
		283	226-053F	DOOR	CST	
		284	442-469A	SPRING	DOOR	
		286	236-429B	WINDOW	LIGHTING	
		287	236-429A	WINDOW	LIGHTING	
		288	524-007M	MAGNET	ASSY DOOR	
		289	321-492A	BRACKET	ASSY DOOR	
		290	321-490A	BRACKET	ASSY DAMPER	
		291	435-427D	GEAR	ASSY DAMPER(B.K)	
		292	435-301A	GEAR	IDLER	
*		300	681-051A	CORD	KKP-419J B-172 KLCE-2F PAL	
		303	255-149A	PLATE	HEAT SINK	
		304	221-407A	COVER	FUSE	
		306	324-951A	HOLDER	TRANSISTER	
		307	221-144E	COVER	INSULATION	
		320	258-596G	PANEL	ASSY DISTRIBUTOR	
		321	257-006A	PLATE	BOTTOM GROUND	
		330	221-834A	COVER	BOTTOM	
		340	226-064A	DOOR	FRONT	
		341	442-591A	SPRING	DOOR	
				SCREW		
		451	353-046C	SCREW	(3X10 FZMY)	
		452	353-051A	SCREW	SPECIAL	
		454	1TRL0402418	BRAIZER HEAD TA SCREW + 2 CUT	D 4.0 L 8.0 MSWR3/FZY	
		458	353-051C	SCREW	SPECIAL(3X12)	
		462	353-136A	SCREW	SPECIAL(FBK) (353S353A)	
		463	1MBC0302418	BINDING HEAD MACHINE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		472	353-090A	SCREW	SPECIAL TP	

3. Packing Accessory Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		801	480-517U	INSTRUCTION ASSY		
		802	288-900A	BOX CARTON		
		803	283-217A	PACKING		
		804	291-002D	SHEET CUSHION		NSP
		808	534-008C	BATTERY	AAAM(R03) 1.5V 1PAIR(LOCAL)	
		810	861-507L	CABLE SET ASSY	PAL CABLE ASSY (3C-2V) MONO	

4. Remote Control Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		900	597-089S	REMOTE CONTROL	R/C ASSY	
		901	236-484A	WINDOW	FILTER(R/C)	NSP
		902	221-858L	COVER	DOOR (R/C)	NSP
		903	217-485B	CASE	TOP (R/C)	NSP
		904	275-610H	BUTTON	RUBBER FUNCTION	NSP
		905	275-612A	BUTTON	RUBBER VHS (R/C)	NSP
		906	275-611A	BUTTON	RUBBER 8MM (R/C)	NSP
		907	515-824C	PWB ASSY!	REMOCON	NSP
		908	442-611A	SPRING	COIL (R/C)	NSP
		909	217-486B	CASE	BOTTOM (R/C)	NSP
		910	221-857B	COVER	BATTERY	
		911	477-054A	RUBBER	BUMPON	NSP

5. Fixture Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		FIX	960-015J	FIXTURE	SVC FIXTURE	
		FIX1	232-972A	BOARD ASSY	SVC FIXTURE	
		FIX2	515-789A	PWB ASSY	FIXTURE (PRE-AMP)	

6. Electrical Section

> **CAUTION:** The * marks in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the SAFETY PRECAUTIONS and SERVICING PRECAUTIONS in the manual. Do not degrade the safety of the unit through improper servicing.

Tolerance

Symbol	C	J	K	M	N	Z	P	A
%	±2	±5	±10	±20	±30	+80 −20	+100 −10	+100 −10

CC, CJ, CK: Capacitor, Ceramic
CE: Capacitor, Electrolytic
CQ: Capacitor, Polyester

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
				CAPACITOR
		C001	0CN1040K948	0.1M 50V Z F TA26
		C002	0CN1040K948	0.1M 50V Z F TA26
		C003	0CN1040K948	0.1M 50V Z F TA26
		C004	0CN2230H948	0.022M 25V Z F TA26
		C005	0CN2230H948	0.022M 25V Z F TA26
		C006	0CN2230H948	0.022M 25V Z F TA26
		C007	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C008	0CN2230H948	0.022M 25V Z F TA26
		C009	0CN1030F678	0.01M 16V M Y TA26
		C00A	0CN2230H948	0.022M 25V Z F TA26
		C00B	0CN2230H948	0.022M 25V Z F TA26
		C010	0CN8200K518	82PF 50V K B TA26
		C012	0CN1520F668	1500P 16V M X TA26
		C013	0CX2700K408	27P 50V J SL TA26
		C014	0CN2230H948	0.022M 25V Z F TA26
		C015	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C016	0CN2710K518	270P 50V K B TA26
		C017	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C018	0CN2230H948	0.022M 25V Z F TA26
		C019	0CN3310K518	330P 50V K B TA26
		C020	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C021	0CN2230H948	0.022M 25V Z F TA26
		C032	0CX4700K408	47P 50V J SL TA26
		C033	0CN1030F678	0.01M 16V M Y TA26
		C0AA	0CN8200K518	82PF 50V K B TA26
		C101	624-018A	LINE DE7100 FZ 472P VA1-KC
		C102	624-018A	LINE DE7100 FZ 472P VA1-KC
		C103	0CN4730K948	0.047M 50V Z F TA26
		C104	0CE1076L610	100M SMS 63V M FM5
		C105	0CE4766K638	47M SMS 50V M FM5 TP
		C106	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C107	0CE1076L610	100M SMS 63V M FM5
		C108	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C109	0CE2266K638	22M SMS 50V M FM5 TP(5)
*		C110	624-025A	4700UF-35V(23X37)
		C111	0CE4786F610	4700M SMS 16V M FL
		C112	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C113	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C115	0CE4766K638	47M SMS 50V M FM5 TP
		C116	0CE4766K638	47M SMS 50V M FM5 TP
		C117	0CE4766F638	47M SMS 16V M FM5 TP5
		C118	0CE4775C638	470M SR 6.3V M FM5 TP(5)
		C119	0CE4766K638	47M SMS 50V M FM5 TP

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C120	0CE4766F638	47M SMS 16V M FM5 TP5
		C121	0CE4766K638	47M SMS 50V M FM5 TP
		C122	0CE4766F638	47M SMS 16V M FM5 TP5
		C123	0CN4730K948	0.047M 50V Z F TA26
		C124	0CN4730K948	0.047M 50V Z F TA26
		C125	0CN4730K948	0.047M 50V Z F TA26
		C126	0CN4730K948	0.047M 50V Z F TA26
		C127	0CN4730K948	0.047M 50V Z F TA26
		C128	0CN4730K948	0.047M 50V Z F TA26
		C129	0CN4730K948	0.047M 50V Z F TA26
		C130	0CN4730K948	0.047M 50V Z F TA26
		C131	0CE4766K638	47M SMS 50V M FM5 TP
		C132	0CE4766F638	47M SMS 16V M FM5 TP5
		C133	0CE1074D638	100M SRA 10V M FM5 TP(5)
		C201	0CQ2234K409	0.022U 50V J POLY TE TP
		C202	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C203	0CQ4734K409	0.047U 50V J POLY TE TP
		C204	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C205	0CQ2234K409	0.022U 50V J POLY TE TP
		C206	0CQ4734K409	0.047U 50V J POLY TE TP
		C207	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C208	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C209	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C210	0CQ8221N409	0.0082U 100V J POLY TP
		C211	0CQ2234K409	0.022U 50V J POLY TE TP
		C212	0CN4730K948	0.047M 50V Z F TA26
		C213	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C214	0CN4730K948	0.047M 50V Z F TA26
		C215	0CN4730K948	0.047M 50V Z F TA26
		C216	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C217	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C218	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C219	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C220	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C221	0CQ1221N409	0.0012U 100V J POLY TP
		C222	0CN1040K948	0.1M 50V Z F TA26
		C223	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C224	0CN1210K518	120P 50V K B TA26
		C225	0CN1510K518	150P 50V K B TA26
		C226	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C227	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C228	0CQ1021N409	0.001U 100V J POLY TP
		C229	0CQ4734K409	0.047U 50V J POLY TE TP
		C230	0CN1030F678	0.01M 16V M Y TA26
		C231	0CE1074F638	100U SRA 16V M FM5 TP(5)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C232	0CN4730K948	0.047M 50V Z F TA26
		C233	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C234	0CN4730K948	0.047M 50V Z F TA26
		C235	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C236	624-027A	GOLD 0.047F-5.5V D13.0X8.5 NEC
		C237	0CN4730K948	0.047M 50V Z F TA26
		C238	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C239	0CN4730K948	0.047M 50V Z F TA26
		C240	0CN1020K518	1000P 50V K B TA26
		C241	0CN1020K518	1000P 50V K B TA26
		C242	0CN1030F678	0.01M 16V M Y TA26
		C243	0CN1030F678	0.01M 16V M Y TA26
		C244	0CN1020K518	1000P 50V K B TA26
		C245	0CN1030F678	0.01M 16V M Y TA26
		C246	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C247	0CN1040K948	0.1M 50V Z F TA26
		C248	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C249	0CC1500K415	15P 50V J NP0 TS
		C250	0CC2400K415	24P 50V J NP0 TP
		C291	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C292	0CN4730K948	0.047M 50V Z F TA26
		C293	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C294	0CX2700K408	27P 50V J SL TA26
		C295	0CN1030F678	0.01M 16V M Y TA26
		C296	0CN1040K948	0.1M 50V Z F TA26
		C297	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C298	0CN1030F678	0.01M 16V M Y TA26
		C299	0CN1030F678	0.01M 16V M Y TA26
		C2B1	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C2B2	0CN1040K948	0.1M 50V Z F TA26
		C301	0CN1030F678	0.01M 16V M Y TA26
		C302	0CN1030F678	0.01M 16V M Y TA26
		C303	0CN1010K518	100P 50V K B TA26
		C304	0CE1066F638	10UF SMS 16V M FM5 TP5
		C305	0CE1064F636	10M SRA 16V M FM5 BP TP(D)
		C306	0CN2230H948	0.022M 25V Z F TA26
		C307	0CE4766F638	47M SMS 16V M FM5 TP5
		C308	0CX2700K408	27P 50V J SL TA26
		C309	0CE1066F638	10UF SMS 16V M FM5 TP5
		C30G	0CN1030F678	0.01M 16V M Y TA26
		C30H	0CX1200K408	12P 50V J SL TA26
		C30J	0CX1800K408	18P 50V J SL TA26
		C30K	0CN1030F678	0.01M 16V M Y TA26
		C30L	0CN1010K518	100P 50V K B TA26
		C30M	0CE4766F638	47M SMS 16V M FM5 TP5
		C310	0CN4730K948	0.047M 50V Z F TA26
		C311	0CE4766F638	47M SMS 16V M FM5 TP5
		C312	0CN2230H948	0.022M 25V Z F TA26
		C313	0CN1030F678	0.01M 16V M Y TA26
		C314	0CN4730K948	0.047M 50V Z F TA26
		C315	0CN1030F678	0.01M 16V M Y TA26
		C316	0CN2230H948	0.022M 25V Z F TA26
		C317	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C318	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C319	0CQ8221N409	0.0082U 100V J POLY TP
		C320	0CN1030F678	0.01M 16V M Y TA26
		C321	0CQ5631N409	0.056U 100V J POLY TP
		C322	0CX4700K408	47P 50V J SL TA26
		C323	0CX2700K408	27P 50V J SL TA26
		C324	0CX3900K408	39P 50V J SL TA26
		C325	0CC1810K405	180P 50V J SL TP
		C326	0CX1500K408	15P 50V J SL TA26
		C327	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C328	0CN3910K518	390P 50V K B TA26
		C329	0CX5600K408	56P 50V J SL TA26
		C330	0CC0500K015	5P 50V C NP0 TR
		C331	0CN8200K518	82PF 50V K B TA26
		C332	0CC3900K415	39P 50V J NP0 TP
		C333	0CX4700K408	47P 50V J SL TA26
		C334	0CE1066F638	10UF SMS 16V M FM5 TP5
		C335	0CE1066F638	10UF SMS 16V M FM5 TP5
		C336	0CE3346K638	0.33M SMS 50V M FM5 TP(5)
		C337	0CN2230H948	0.022M 25V Z F TA26
		C338	0CQ2231N409	0.022U 100V J POLY TP
		C339	0CN2230H948	0.022M 25V Z F TA26
		C340	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C341	0CN4730K948	0.047M 50V Z F TA26
		C342	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C343	0CN4710K518	470P 50V K B TA26
		C344	0CN2230H948	0.022M 25V Z F TA26
		C345	0CE4766F638	47M SMS 16V M FM5 TP5
		C346	0CN2230H948	0.022M 25V Z F TA26
		C347	0CE4766F638	47M SMS 16V M FM5 TP5
		C348	0CN1030F678	0.01M 16V M Y TA26
		C349	0CE3346K638	0.33M SMS 50V M FM5 TP(5)
		C350	0CN2230H948	0.022M 25V Z F TA26
		C351	0CE4766F638	47M SMS 16V M FM5 TP5
		C352	0CX6800K408	68P 50V J SL TA26
		C353	0CE4766F638	47M SMS 16V M FM5 TP5
		C354	0CN1030F678	0.01M 16V M Y TA26
		C355	0CX4700K408	47P 50V J SL TA26
		C356	0CC0600K015	6P 50V C NP0 TS
		C357	0CX3300K408	33P 50V J SL TA26
		C358	0CE4766F638	47M SMS 16V M FM5 TP5
		C359	0CN2230H948	0.022M 25V Z F TA26
		C360	0CN1030F678	0.01M 16V M Y TA26
		C361	0CN1030F678	0.01M 16V M Y TA26
		C362	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C367	0CE4766F638	47M SMS 16V M FM5 TP5
		C368	0CN2230H948	0.022M 25V Z F TA26
		C373	0CN1040K948	0.1M 50V Z F TA26
		C379	0CX1800K408	18P 50V J SL TA26
		C381	0CX3900K408	39P 50V J SL TA26
		C383	0CN2230H948	0.022M 25V Z F TA26
		C384	0CE4766F638	47M SMS 16V M FM5 TP5
		C385	0CE3366F638	33M SMS 16V M FM5 TP(5)
		C386	0CN1030F678	0.01M 16V M Y TA26
		C387	0CC1210K405	120P 50V J SL TS
		C388	0CQ5631N409	0.056U 100V J POLY TP
		C389	0CE4766F638	47M SMS 16V M FM5 TP5
		C391	0CN1040K948	0.1M 50V Z F TA26
		C392	0CN2230H948	0.022M 25V Z F TA26
		C393	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C394	0CX2700K408	27P 50V J SL TA26
		C395	0CN5610K518	560P 50V K B TA26
		C396	0CX2700K408	27P 50V J SL TA26
		C397	0CN1030F678	0.01M 16V M Y TA26
		C398	0CN1010K518	100P 50V K B TA26
		C3A0	0CN1030F678	0.01M 16V M Y TA26
		C3A1	0CN2230H948	0.022M 25V Z F TA26
		C3A2	0CE4766F638	47M SMS 16V M FM5 TP5
		C3A3	0CN1030F678	0.01M 16V M Y TA26
		C3A4	0CX2200K408	22P 50V J SL TP26
		C3A5	0CN2230H948	0.022M 25V Z F TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION		S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C3A6	0CN1030F678	0.01M 16V M Y TA26				C3J2	0CN2230H948	0.022M 25V Z F TA26
		C3A7	0CX1800K408	18P 50V J SL TA26				C3J4	0CN8200K518	82PF 50V K B TA26
		C3A8	0CN1030F678	0.01M 16V M Y TA26				C3J6	0CN1040K948	0.1M 50V Z F TA26
		C3B0	0CE2254K638	2.2M SRA 50V M FM5 TP(5)				C401	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3B1	0CN1030F678	0.01M 16V M Y TA26				C402	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3B2	0CN1030F678	0.01M 16V M Y TA26				C405	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3B3	0CN2230H948	0.022M 25V Z F TA26				C407	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3B4	0CE4766F638	47M SMS 16V M FM5 TP5				C408	0CE4766F638	47M SMS 16V M FM5 TP5
		C3B5	0CN1040K948	0.1M 50V Z F TA26				C410	0CN1040K948	0.1M 50V Z F TA26
		C3B6	0CE4744K638	0.47M SRA 50V M FM5 TP(5)				C411	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3B7	0CC0700K015	7P 50V C NP0 TS				C412	0CN1040K948	0.1M 50V Z F TA26
		C3B8	0CE4744K638	0.47M SRA 50V M FM5 TP(5)				C413	0CN1040K948	0.1M 50V Z F TA26
		C3B9	0CN2230H948	0.022M 25V Z F TA26				C414	0CE1066F638	10UF SMS 16V M FM5 TP5
		C3C0	0CE1044K638	0.1M SRA 50V M FM5 TP(5)				C415	0CN1040K948	0.1M 50V Z F TA26
		C3C1	0CN1210K518	120P 50V K B TA26				C416	0CQ8221N409	0.0082U 100V J POLY TP
		C3C2	0CC0600K015	6P 50V C NP0 TS				C417	0CE2266F638	22M SMS 16V M FM5 TP5
		C3C3	0CX1000K408	10P 50V J SL TA26				C418	0CQ1531N409	0.015U 100V J POLY TP
		C3C4	0CN1030F678	0.01M 16V M Y TA26				C419	0CQ1031N409	0.01U 100V J POLY TP
		C3C5	0CE4766F638	47M SMS 16V M FM5 TP5				C420	0CE1066F638	10UF SMS 16V M FM5 TP5
		C3C6	0CC3900K415	39P 50V J NPO TP				C421	0CE4766F638	47M SMS 16V M FM5 TP5
		C3C7	0CN2230H948	0.022M 25V Z F TA26				C422	0CN1030F678	0.01M 16V M Y TA26
		C3C8	0CN1030F678	0.01M 16V M Y TA26				C423	0CE2266F638	22M SMS 16V M FM5 TP5
		C3C9	0CN1040K948	0.1M 50V Z F TA26				C424	0CQ1231N409	0.012U 100V J POLY TP
		C3D0	0CE4766F638	47M SMS 16V M FM5 TP5				C425	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C3D1	0CN1030F678	0.01M 16V M Y TA26				C426	0CN1030F678	0.01M 16V M Y TA26
		C3D2	0CN1030F678	0.01M 16V M Y TA26				C427	0CQ1031N409	0.01U 100V J POLY TP
		C3D3	0CE1064F638	10M SRA 16V M FM5 TP(5)				C428	0CQ1031N409	0.01U 100V J POLY TP
		C3D4	0CN1030F678	0.01M 16V M Y TA26				C429	0CQ1031N409	0.01U 100V J POLY TP
		C3D5	0CN1040K948	0.1M 50V Z F TA26				C430	0CQ1031N409	0.01U 100V J POLY TP
		C3D6	0CX1500K408	15P 50V J SL TA26				C431	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C3D7	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)				C432	0CN1030F678	0.01M 16V M Y TA26
		C3D8	0CE4754K638	4.7M SRA 50V M FM5 TP(5)				C433	0CE4766F638	47M SMS 16V M FM5 TP5
		C3D9	0CN2230H948	0.022M 25V Z F TA26				C434	0CQ3331N409	0.033U 100V J POLY TP
		C3E1	0CE4766F638	47M SMS 16V M FM5 TP5				C435	0CN2210K518	220P 50V K B TA26
		C3E2	0CN1040K948	0.1M 50V Z F TA26				C436	0CE3356K638	3.3M SMS 50V M FM5 TP(5)
		C3E3	0CE4754K638	4.7M SRA 50V M FM5 TP(5)				C437	0CE1066F638	10UF SMS 16V M FM5 TP5
		C3E4	0CE1064F638	10M SRA 16V M FM5 TP(5)				C438	0CQ5631N409	0.056U 100V J POLY TP
		C3E6	0CN3310K518	330P 50V K B TA26				C450	0CN1040K948	0.1M 50V Z F TA26
		C3E7	0CN1030F678	0.01M 16V M Y TA26				C451	0CN1040K948	0.1M 50V Z F TA26
		C3E9	0CE1044K638	0.1M SRA 50V M FM5 TP(5)				C4A0	0CE4766F638	47M SMS 16V M FM5 TP5
		C3F1	0CN1810K518	180P 50V K B TA26				C4A1	0CN2230H948	0.022M 25V Z F TA26
		C3F2	0CE4766F638	47M SMS 16V M FM5 TP5				C4A2	0CE4766F638	47M SMS 16V M FM5 TP5
		C3F3	0CN2230H948	0.022M 25V Z F TA26				C4A3	0CN1030F678	0.01M 16V M Y TA26
		C3F4	0CC0400K015	4P 50V C NP0 TS				C4A4	0CN8200K518	82PF 50V K B TA26
		C3F5	0CX2200K408	22P 50V J SL TP26				C4A5	0CN3910K518	390P 50V K B TA26
		C3F6	0CE4754K638	4.7M SRA 50V M FM5 TP(5)				C4A6	0CN1030F678	0.01M 16V M Y TA26
		C3F7	0CN1030F678	0.01M 16V M Y TA26				C4A7	0CN1520F668	1500P 16V M X TA26
		C3F9	0CN1030F678	0.01M 16V M Y TA26				C4A8	0CX5600K408	56P 50V J SL TA26
		C3G0	0CN3910K518	390P 50V K B TA26				C4A9	0CN2220F668	2200P 16V M X TA26
		C3G1	0CN4710K518	470P 50V K B TA26				C4B0	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3G2	0CE4766F638	47M SMS 16V M FM5 TP5				C4B1	0CN2220F668	2200P 16V M X TA26
		C3G3	0CN2230H948	0.022M 25V Z F TA26				C4B2	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3G4	0CE4766F638	47M SMS 16V M FM5 TP5				C4B3	0CE4766F638	47M SMS 16V M FM5 TP5
		C3G5	0CN2230H948	0.022M 25V Z F TA26				C4B4	0CE4766F638	47M SMS 16V M FM5 TP5
		C3G6	0CN1030F678	0.01M 16V M Y TA26				C4B5	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C3G7	0CN1010K518	100P 50V K B TA26				C4B6	0CN2220F668	2200P 16V M X TA26
		C3G8	0CN1020K518	1000P 50V K B TA26				C4B7	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3G9	0CE4754K638	4.7M SRA 50V M FM5 TP(5)				C4B8	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3H1	0CE1064F638	10M SRA 16V M FM5 TP(5)				C4B9	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3H2	0CN1520F668	1500P 16V M X TA26				C4C1	0CN2210K518	220P 50V K B TA26
		C3H3	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)				C4C2	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3J1	0CE4766F638	47M SMS 16V M FM5 TP5				C4C3	0CE4766F638	47M SMS 16V M FM5 TP5

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C4C5	0CN2230H948	0.022M 25V Z F TA26
		C4C6	0CE4766F638	47M SMS 16V M FM5 TP5
		C4C7	0CQ4731N409	0.047U 100V J POLY TP
		C4C8	0CQ3331N409	0.033U 100V J POLY TP
		C4C9	0CQ3331N409	0.033U 100V J POLY TP
		C4D1	0CN2230H948	0.022M 25V Z F TA26
		C4D2	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C4K0	0CN2230H948	0.022M 25V Z F TA26
		C4K1	0CN1020K518	1000P 50V K B TA26
		C4K2	0CN2710K518	270P 50V K B TA26
		C4K3	0CN1030F678	0.01M 16V M Y TA26
		C4K4	0CN1040K948	0.1M 50V Z F TA26
		C4K5	0CC1000K015	10P 50V C NP0 TS
		C4K6	0CC1000K015	10P 50V C NP0 TS
		C4K7	0CN2230H948	0.022M 25V Z F TA26
		C4K8	0CE4766F638	47M SMS 16V M FM5 TP5
		C4K9	0CE4766F638	47M SMS 16V M FM5 TP5
		C4L1	0CN4710K518	470P 50V K B TA26
		C4L2	0CN1040K948	0.1M 50V Z F TA26
		C4L3	0CN4710K518	470P 50V K B TA26
		C4L4	0CN1040K948	0.1M 50V Z F TA26
		C4L5	0CQ4721N409	0.0047U 100V J POLY TP
		C4L6	0CX1200K408	12P 50V J SL TA26
		C4L7	0CN1030F678	0.01M 16V M Y TA26
		C501	0CN1040K948	0.1M 50V Z F TA26
		C502	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C503	0CN1040K948	0.1M 50V Z F TA26
		C504	0CC1800K415	18P 50V J NP0 TS
		C505	0CC2200K415	22P 50V J NP0 TS
		C506	0CN1030F678	0.01M 16V M Y TA26
		C507	0CN1030F678	0.01M 16V M Y TA26
		C508	0CN1020K518	1000P 50V K B TA26
		C509	0CN1040K948	0.1M 50V Z F TA26
		C510	0CN1030F678	0.01M 16V M Y TA26
		C511	0CN1030F678	0.01M 16V M Y TA26
		C512	0CN1030F678	0.01M 16V M Y TA26
		C513	0CN1020K518	1000P 50V K B TA26
		C514	0CN1040K948	0.1M 50V Z F TA26
		C515	0CN1040K948	0.1M 50V Z F TA26
		C516	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C518	0CN1040K948	0.1M 50V Z F TA26
		C519	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C520	0CN1040K948	0.1M 50V Z F TA26
		C531	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C532	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C533	0CN6820F668	6800P 16V M X TA26
		C534	0CN1020K518	1000P 50V K B TA26
		C535	0CN1040K948	0.1M 50V Z F TA26
		C536	0CN1030F678	0.01M 16V M Y TA26
		C537	0CN1040K948	0.1M 50V Z F TA26
		C538	0CN1040K948	0.1M 50V Z F TA26
		C539	0CN1040K948	0.1M 50V Z F TA26
		C540	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C541	0CN4730K948	0.047M 50V Z F TA26
		C542	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C544	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C545	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C546	0CN1040K948	0.1M 50V Z F TA26
		C547	0CN1040K948	0.1M 50V Z F TA26
		C548	0CN1030F678	0.01M 16V M Y TA26
		C549	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C550	0CN1030F678	0.01M 16V M Y TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C551	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C552	0CN1040K948	0.1M 50V Z F TA26
		C553	0CN1040K948	0.1M 50V Z F TA26
		C554	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C555	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C556	0CN1040K948	0.1M 50V Z F TA26
		C557	0CN6820F668	6800P 16V M X TA26
		C558	0CN1020K518	1000P 50V K B TA26
		C559	0CN1040K948	0.1M 50V Z F TA26
		C560	0CN1030F678	0.01M 16V M Y TA26
		C561	0CK3320K515	3300P 50V K B TS
		C562	0CK3320K515	3300P 50V K B TS
		C563	0CK3320K515	3300P 50V K B TS
		C5A1	0CN1040K948	0.1M 50V Z F TA26
		C601	0CN2230H948	0.022M 25V Z F TA26
		C602	0CN1040K948	0.1M 50V Z F TA26
		C603	0CN1040K948	0.1M 50V Z F TA26
		C604	0CN1040K948	0.1M 50V Z F TA26
		C605	0CN1040K948	0.1M 50V Z F TA26
		C606	0CN1040K948	0.1M 50V Z F TA26
		C607	0CN1040K948	0.1M 50V Z F TA26
		C608	0CN1040K948	0.1M 50V Z F TA26
		C609	0CN1040K948	0.1M 50V Z F TA26
		C610	0CN1040K948	0.1M 50V Z F TA26
		C611	0CN1040K948	0.1M 50V Z F TA26
		C612	0CN1040K948	0.1M 50V Z F TA26
		C613	0CN1040K948	0.1M 50V Z F TA26
		C614	0CN1040K948	0.1M 50V Z F TA26
		C615	0CX1800K408	18P 50V J SL TA26
		C631	0CN1010K518	100P 50V K B TA26
		C632	0CN1020K518	1000P 50V K B TA26
		C633	0CE4753F638	4.7M SRE 16V M FM5 TP(5)
		C634	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C635	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C636	0CN1020K518	1000P 50V K B TA26
		C651	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C701	0CN1030F678	0.01M 16V M Y TA26
		C703	0CN1030F678	0.01M 16V M Y TA26
		C704	0CN1030F678	0.01M 16V M Y TA26
		C705	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C706	0CN1030F678	0.01M 16V M Y TA26
		C707	0CE4766F638	47M SMS 16V M FM5 TP5
		C708	0CX3300K408	33P 50V J SL TA26
		C715	0CE1066F638	10UF SMS 16V M FM5 TP5
		C716	0CQ2231N409	0.022U 100V J POLY TP
		C717	0CN1040K948	0.1M 50V Z F TA26
		C718	0CQ2231N409	0.022U 100V J POLY TP
		C719	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C721	0CE4766F638	47M SMS 16V M FM5 TP5
		C722	0CN1030F678	0.01M 16V M Y TA26
		C723	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C724	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C726	0CC0800K115	8P 50V D NP0 TS
		C727	0CX4700K408	47P 50V J SL TA26
		C728	0CX4700K408	47P 50V J SL TA26
		C729	0CE4766F638	47M SMS 16V M FM5 TP5
		C730	0CE1054K638	1.0M SRA/SS 50V M FM5 TP(5)
		C731	0CQ4731N409	0.047U 100V J POLY TP
		C732	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C734	0CN1040K948	0.1M 50V Z F TA26
		C735	0CN1030F678	0.01M 16V M Y TA26
		C750	0CN1030F678	0.01M 16V M Y TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C751	0CE4766F638	47M SMS 16V M FM5 TP5
		C753	0CQ4731N409	0.047U 100V J POLY TP
		C770	0CN1040K948	0.1M 50V Z F TA26
		C771	0CQ1231N409	0.012U 100V J POLY TP
		C772	0CX2400K408	24P 50V J SL TA26
		C773	0CN1010K518	100P 50V K B TA26
		C774	0CN1010K518	100P 50V K B TA26
		C801	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C802	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C803	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C804	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C806	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C807	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C808	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C809	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C810	0CN1030F678	0.01M 16V M Y TA26
		C811	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C812	0CN1030F678	0.01M 16V M Y TA26
		C813	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C814	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C815	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C816	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C817	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C818	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C819	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C820	0CE4775C638	470M SR 6.3V M FM5 TP(5)
		C821	0CN1020K518	1000P 50V K B TA26
		C822	0CN1020K518	1000P 50V K B TA26
		C823	0CN1030F678	0.01M 16V M Y TA26
		C824	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C825	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C826	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C827	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C828	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C829	0CN1020K518	1000P 50V K B TA26
		C830	0CN1020K518	1000P 50V K B TA26
		C832	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C833	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C834	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C835	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C836	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C837	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C838	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C839	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C840	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C841	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C842	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C843	0CN1030F678	0.01M 16V M Y TA26
		C844	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C845	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C846	0CQ1021N409	0.001U 100V J POLY TP
		C847	0CQ1031N409	0.01U 100V J POLY TP
		C848	0CQ3321N409	0.0033U 100V J POLY TP
		C849	0CQ6831N409	0.068U 100V J POLY TP
		C850	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C851	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C852	0CN1010K518	100P 50V K B TA26
		C853	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C854	0CQ4721N409	0.0047U 100V J POLY TP
		C855	0CQ3331N409	0.033U 100V J POLY TP
		C856	0CN1040K948	0.1M 50V Z F TA26
		C857	0CN4710K518	470P 50V K B TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C858	0CN1020K518	1000P 50V K B TA26
		C859	0CN4710K518	470P 50V K B TA26
		C860	0CN1020K518	1000P 50V K B TA26
		C861	0CN1020K518	1000P 50V K B TA26
		C862	0CN1040K948	0.1M 50V Z F TA26
		C870	0CX6800K408	68P 50V J SL TA26
		C871	0CX6800K408	68P 50V J SL TA26
		C872	0CX6800K408	68P 50V J SL TA26
		C8A0	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A1	0CN1010K518	100P 50V K B TA26
		C8A2	0CE4776F638	470UF SMS 16V M FM5 TP5
		C8A3	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A4	0CC1210K415	120PF 50V 5 CH FM(5MM)
		C8A5	0CC1510K415	150P 50V J NP0 TS
		C8A6	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A7	0CN1030F678	0.01M 16V M Y TA26
		C8A8	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A9	0CX3900K408	39P 50V J SL TA26
		C8B1	0CN1030F678	0.01M 16V M Y TA26
		C8B2	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C8B3	0CC1200K415	12P 50V J NP0 TS
		C8B4	0CC3300K415	33P 50V J NP0 TP
		C8C1	0CN1040K948	0.1M 50V Z F TA26
		C901	0CN2230H948	0.022M 25V Z F TA26
		C902	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C903	0CX3900K408	39P 50V J SL TA26
		C904	0CX3900K408	39P 50V J SL TA26
		C905	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C906	0CN2230H948	0.022M 25V Z F TA26
		C907	0CN2230H948	0.022M 25V Z F TA26
		C908	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C909	0CX3900K408	39P 50V J SL TA26
		C910	0CX3900K408	39P 50V J SL TA26
		C911	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C912	0CN2230H948	0.022M 25V Z F TA26
		C913	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C914	0CN1030F678	0.01M 16V M Y TA26
		C915	0CX3300K408	33P 50V J SL TA26
		C916	0CN2230H948	0.022M 25V Z F TA26
		C917	0CN1030F678	0.01M 16V M Y TA26
		C918	0CN1030F678	0.01M 16V M Y TA26
		C919	0CE1044K638	0.1M SRA 50V M FM5 TP(5)
		C920	0CN1030F678	0.01M 16V M Y TA26
		C921	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C922	0CN3310K518	330P 50V K B TA26
		C923	0CN1030F678	0.01M 16V M Y TA26
		C924	0CC0400K015	4P 50V C NP0 TS
		C925	0CN1030F678	0.01M 16V M Y TA26
		C926	0CN1030F678	0.01M 16V M Y TA26
		C927	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C928	0CX2700K408	27P 50V J SL TA26
		C929	0CN1030F678	0.01M 16V M Y TA26
		C930	0CN8200K518	82PF 50V K B TA26
		C932	0CN3310K518	330P 50V K B TA26
		C933	0CC0300K015	3P 50V C NP0 TS

DIODE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		D001	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D101	0DD400300DA	RECT.1N4003(KARIBONG)
		D102	0DD400300DA	RECT.1N4003(KARIBONG)
		D103	0DD400300DA	RECT.1N4003(KARIBONG)
		D105	0DD402000AC	BRIDGE RBA-402 SANKEN

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		D106	0DD402000AC	BRIDGE RBA-402 SANKEN
		D107	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D108	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D201	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D202	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D203	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D204	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D205	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D206	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D207	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D208	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D209	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D210	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D211	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D212	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D213	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D301	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D302	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D303	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D305	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A1	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A2	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A3	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A4	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A5	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A6	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A8	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A9	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D401	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D402	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D403	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D404	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D501	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D502	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D503	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D505	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D506	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D521	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D522	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D601	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D602	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D603	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D604	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D8A2	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D901	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM

DISPLAY TUBE

		DG601	514-031A	13BT-133GK DD1 FUTABA

DELAY LINE

		DL301	617-011A	MS-31PC (KSS)
		FL3A1	617-011A	MS-31PC (KSS)

FUSE

		F101	585-011A	T 500MA 250V S504
		F102	585-011H	T 2.5A, 250V S506
		F103	585-011H	T 2.5A, 250V S506

FILTER

		FL101	616-004B	LINE 801-302-FD(BUJEON)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		FL301	616-064B	L/C LPF1.5-1B(YL-0170A)S/S
		FL302	616-053A	HPF 1.4MHZ (DAE SHIN)
		FL3A2	616-234A	A285TCHS-K5305 CAN-COIL
		FL3A3	616-234B	A285TCHS-K5306 DD1P K-TOKO
		FL3A5	616-126G	L/C BPF CB0067 4.43BPF S/S
		FL401	616-069C	LPF 12KHZ(JH-1058) SAMMI
		FL4A1	616-835B	L/C CBP 1.5 S/S
		Z301	616-323A	SFE4.25MBF (MURATA)
		Z701	616-099B	SAW 0FWG1962 (SIEMENS) B/G
		Z703	616-036B	TRAP TPS5.5MB MURA
		Z705	616-038B	CERAMIC,SFE5.5MB MURA
		Z706	616-714A	MKT40MA100P MURATA

IC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		IC001	0IHI118019A	HA118019NT(PRE-AMP 4HD)
		IC101	0ISA514270A	STK51427(PWR REG HYBRID)
		IC102	0IMA780600A	AN7806 6V1AREG MATSUSHITA
		IC103	0IMA781200A	AN7812(12V REGIA) MATSUSHI
		IC104	0IMA781200A	AN7812(12V REGIA) MATSUSHI
		IC201	0IMI381840G	M38184MA-111FP(SY+TI)
		IC202	0IHI497560A	HD49756NT(SERVO)
		IC203	0IGS744500A	GL7445 (MOTOR DRIV-1CH) GSS
		IC204	0IXI240200B	X24C02.8D EEP-ROM(2K CMOS)
		IC205	0IMT523000B	PST-523G/T(3.3V) LOW
		IC206	0IRH704800A	BA7048N(ENVLOPE-DETECT)
		IC301	0ISA739000A	LA7390(PAL,Y/C1CHIP)
		IC303	0IRH702500A	BA7025L PAL/MESECAM SYNC DETEC
		IC304	0IKK740300B	MSM7403RS(2H CCD) DIP-PACK
		IC3A1	0IHI118172A	HA118172F(Y/C 8MM)HARD TRAY
		IC3A2	0IKK740300A	MSM7403MS(2H CCD)FLAT KINSEKI
		IC3A3	0ISO120300A	CXA1203M(8MM PAL JOG)SOP-24P-L
		IC401	0IRH779000A	BA7790LS(AUDIO NORMAL)
OR		IC402	0IGS381600A	GL3816
		IC402	0ISA701600A	LA7016 ANALOG SW
		IC403	0ISA722200A	LA7222 (1280 AUDIO)
		IC4A1	0ISA745400A	LA7454W(FM AUDIO 8MM)HARD TRAY
		IC4K1	0IEX108230A	XR-10823(ATF)QFP32
OR		IC501	0ISO807240D	CXP80724-191Q(SOFT SER 24K)
		IC501	0ISO807240F	CXP80724-196Q(8MMSY+SER)
		IC502	0IMT523000C	PST-523D/T
		IC503	0ISA183600A	LB1836M(LOAD DRIV) TAPE&REEL
		IC504	0IGS358000C	GL358D(OP-AMP)
		IC505	0ISO112700A	CXA1127M-T6 CAP-M DRIV 30SOP
		IC506	0ISO151200A	CXA1512M
		IC507	0IGS740600A	GL7406 (MOTOR DRIV) TAPING
		IC601	0IRH152180B	BA15218(HEAD-PHONE AMP)DIP
		IC602	0INE163110A	UPD16311GC-AB6 FIP DRIV 52PQFP
		IC701	0IPH980200A	TDA9802(VIF PAL+SECAM-L)
		IC801	0ISA795400A	LA7954 9S SWITCHING
		IC802	0ISA722200A	LA7222 (1280 AUDIO)
		IC803	0ISA795400A	LA7954 9S SWITCHING
		IC804	0ISA722200A	LA7222 (1280 AUDIO)
		IC805	0IJR224500A	NJM2245S(A/V S/W 6DB) 9SIP
		IC806	0IJR224900A	NJM2249L S/W (8 PIN SIP)
		IC807	0IPH470000A	SAA4700 VPS DECODER
		IC808	0IJR222900A	NJM2229S SYNC SEPA (SIP PACK)
		IC8A1	0IMI350100E	M35010-094SP(OSD Q40W)RUSSIAN
		IC901	0IHI118019A	HA118019NT(PRE-AMP 4HD)

JACK

		JK601	572-059D	JPJ1022-01-840

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		JK602	572-059C	JPJ1022-01-830
		JK603	572-055A	MIC HSJ1406-01-010

COIL

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		L001	0LR1000K035	100M K 6X6 L5 TP
		L002	0LA0471K018	4.7M K 2.3X3.4 L5 TP
		L003	0LR3300K035	330M K 6X6 L5 TP
		L004	0LR8200K035	820M K 6X6 L5 TP
		L005	0LA0332K018	33M K 2.3X3.4 L5 TP
		L006	0LR1800K035	180M K 6X6 L5 TP
		L007	0LR1000K035	100M K 6X6 L5 TP
		L008	0LR1000K035	100M K 6X6 L5 TP
		L201	0LR1000K035	100M K 6X6 L5 TP
		L202	0LR1000K035	100M K 6X6 L5 TP
		L203	0LR1000K035	100M K 6X6 L5 TP
		L204	0LR1000K035	100M K 6X6 L5 TP
		L205	0LR1000K035	100M K 6X6 L5 TP
		L206	0LA1000K018	100M K 2.3X3.4 L5 TP
		L291	0LR1000K035	100M K 6X6 L5 TP
		L292	0LA0472K018	47M K 2.3X3.4 L5 TP
		L2B1	0LA0102K018	10M K 2.3X3.4 L5 TP
		L2B2	0LA1000K018	100M K 2.3X3.4 L5 TP
		L301	0LR1000K035	100M K 6X6 L5 TP
		L302	0LR1000K035	100M K 6X6 L5 TP
		L303	0LR0472K035	47M K 6X6 L5 TP
		L304	0LR0272K035	27M K 6X6 L5 TP
		L305	0LA0152K018	15M K 2.3X3.4 L5 TP
		L306	0LA0332K018	33M K 2.3X3.4 L5 TP
		L307	0LA0471K018	4.7M K 2.3X3.4 L5 TP
		L308	0LR1000K035	100M K 6X6 L5 TP
		L309	0LR1000K035	100M K 6X6 L5 TP
		L310	0LR1000K035	100M K 6X6 L5 TP
		L311	0LR1000K035	100M K 6X6 L5 TP
		L312	0LA0332K018	33M K 2.3X3.4 L5 TP
		L313	0LA0472K018	47M K 2.3X3.4 L5 TP
		L314	0LR8200K035	820M K 6X6 L5 TP
		L315	0LA0472K018	47M K 2.3X3.4 L5 TP
		L317	0LR1000K035	100M K 6X6 L5 TP
		L318	0LR1000K035	100M K 6X6 L5 TP
		L322	0LA0681K018	6.8M K 2.3X3.4 L5 TP
		L323	0LR1000K035	100M K 6X6 L5 TP
		L324	637-013B	PECK 6.80MH-J NYE
		L325	0LA0122K018	12M K 2.3X3.4 L5 TP
		L326	0LA0181K018	1.8M K 2.3X3.4 L5 TP
		L327	0LA0332K018	33M K 2.3X3.4 L5 TP
		L3A0	0LR1000K035	100M K 6X6 L5 TP
		L3A1	0LR1000K035	100M K 6X6 L5 TP
		L3A2	0LA0472K018	47M K 2.3X3.4 L5 TP
		L3A3	0LR1000K035	100M K 6X6 L5 TP
		L3A4	0LR0332K035	33M K 6X6 L5 TP
		L3A5	0LA1800K018	180M K 2.3X3.4 L5 TP
		L3A7	0LA0102K018	10M K 2.3X3.4 L5 TP
		L3A8	0LR1000K035	100M K 6X6 L5 TP
		L3B1	0LA0682K018	68M K 2.3X3.4 L5 TP
		L3B3	0LA0152K018	15M K 2.3X3.4 L5 TP
		L3B5	0LR1000K035	100M K 6X6 L5 TP
		L3B6	0LR1000K035	100M K 6X6 L5 TP
		L3C1	0LR1000K035	100M K 6X6 L5 TP
		L3C2	0LA0222K018	22M K 2.3X3.4 L5 TP
		L401	0LR1502J045	0.015H J 6X7 L5 TP
		L402	0LR1000K035	100M K 6X6 L5 TP
		L403	0LR1000K035	100M K 6X6 L5 TP
		L404	0LR1000K035	100M K 6X6 L5 TP
		L405	0LA0152K018	15M K 2.3X3.4 L5 TP
		L4A1	0LR1000K035	100M K 6X6 L5 TP
		L4A2	0LA0562K018	56M K 2.3X3.4 L5 TP
		L4A3	0LA1200K018	120M K 2.3X3.4 L5 TP
		L4A4	0LR1000K035	100M K 6X6 L5 TP
		L4A5	0LR1000K035	100M K 6X6 L5 TP
		L4K1	0LA1800K018	180M K 2.3X3.4 L5 TP
		L4K2	0LR1000K035	100M K 6X6 L5 TP
		L4K3	0LR1000K035	100M K 6X6 L5 TP
		L501	0LR1000K035	100M K 6X6 L5 TP
		L502	0LR1000K035	100M K 6X6 L5 TP
		L503	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L504	0LR1000K035	100M K 6X6 L5 TP
		L505	0LR1000K035	100M K 6X6 L5 TP
		L506	0LR1000K035	100M K 6X6 L5 TP
		L507	0LR1000K035	100M K 6X6 L5 TP
		L508	0LR1000K035	100M K 6X6 L5 TP
		L521	0LA0102K018	10M K 2.3X3.4 L5 TP
		L601	0LA1000K018	100M K 2.3X3.4 L5 TP
		L602	0LA1000K018	100M K 2.3X3.4 L5 TP
		L631	0LA1000K018	100M K 2.3X3.4 L5 TP
		L701	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L702	0LR1000K035	100M K 6X6 L5 TP
		L703	0LA0222K018	22M K 2.3X3.4 L5 TP
		L707	0LR1000K035	100M K 6X6 L5 TP
		L708	0LA0102K018	10M K 2.3X3.4 L5 TP
		L709	0LA0152K018	15M K 2.3X3.4 L5 TP
		L710	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L711	0LR0121K035	1.2M K 6X6 L5 TP
		L712	0LA1000K018	100M K 2.3X3.4 L5 TP
		L713	0LA1000K018	100M K 2.3X3.4 L5 TP
		L720	0LR1000K035	100M K 6X6 L5 TP
		L802	0LA1000K018	100M K 2.3X3.4 L5 TP
		L803	0LA1000K018	100M K 2.3X3.4 L5 TP
		L804	0LR1000K035	100M K 6X6 L5 TP
		L805	0LA1000K018	100M K 2.3X3.4 L5 TP
		L806	0LA1000K018	100M K 2.3X3.4 L5 TP
		L807	0LA1000K018	100M K 2.3X3.4 L5 TP
		L808	0LA1000K018	100M K 2.3X3.4 L5 TP
		L809	0LA1000K018	100M K 2.3X3.4 L5 TP
		L810	0LA1000K018	100M K 2.3X3.4 L5 TP
		L811	0LR1000K035	100M K 6X6 L5 TP
		L8A1	0LA0561K018	5.6M K 2.3X3.4 L5 TP
		L8A2	0LR1000K035	100M K 6X6 L5 TP
		L8A3	0LA0332K018	33M K 2.3X3.4 L5 TP
		L901	0LR1000K035	100M K 6X6 L5 TP
		L902	0LR1000K035	100M K 6X6 L5 TP
		L903	0LR1000K035	100M K 6X6 L5 TP
		L904	0LA0122K018	12M K 2.3X3.4 L5 TP
		L905	0LA0272K018	27M K 2.3X3.4 L5 TP
		L906	0LA0472K018	47M K 2.3X3.4 L5 TP
		L907	0LA0102K018	10M K 2.3X3.4 L5 TP
		L908	0LA1800K018	180M K 2.3X3.4 L5 TP
		T401	633-032C	BIAS-OSC(MISUMI) 70KHZ
		T402	633-032C	BIAS-OSC(MISUMI) 70KHZ
		T701	633-085A	V-COIL 2920N-K5592Z 77.8 TOKO
		W777	0LA1000K018	100M K 2.3X3.4 L5 TP

LED

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		LED601	0DL112000AK	DL-11S2GNS(SUPPER,GREEN,03)KOC
		LED621	0DL112000AK	DL-11S2GNS(SUPPER,GREEN,03)KOC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
				MODULATOR
		MD701	592-808A	MCB8-UG3630 PAL B/G WO ATT
				CIRCUIT BOARD ASSEMBLY
		PBIO0	515-866P	I/O BOARD
		PBJT0	515-908B	JUNCTION 2 (G/S)
		PBM00	515-864P	MAIN (C+,VCR+)
		PBP01	515-868S	POWER1
		PBP02	515-869S	POWER2
		PBP03	515-870S	POWER3
		PBT00	515-912S	VHS KEY & TIMER
				TRANSFORMER
*		PT101	641-340B	230V/240V/50HZ
				TRANSISTOR
		Q001	0TR126709AC	KTA1267-GR MINI TP KEC
		Q003	0TR319909AE	KTC3199-GR MINI TP KEC
		Q009	0TR126709AC	KTA1267-GR MINI TP KEC
		Q010	0TR319909AE	KTC3199-GR MINI TP KEC
		Q011	0TR319909AE	KTC3199-GR MINI TP KEC
		Q101	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q102	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q103	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q201	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q202	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q203	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q204	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q205	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q206	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q207	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q208	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q209	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q210	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q211	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q212	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q213	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q214	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q251	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q252	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q291	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q292	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q293	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q2M1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q301	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q302	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q303	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q304	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q305	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q306	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q307	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q308	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q309	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q310	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q311	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q312	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q313	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q314	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q315	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		Q316	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q321	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q322	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q323	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q324	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q325	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q3A0	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3A1	0TR319909AE	KTC3199-GR MINI TP KEC
		Q3A3	0TR319909AE	KTC3199-GR MINI TP KEC
		Q3A7	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3A8	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q3A9	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3B1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B2	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q3B3	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B4	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B5	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q3B6	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B7	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B8	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B9	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q401	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q402	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q403	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q404	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q405	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q406	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q407	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q408	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q409	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q410	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q411	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q420	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q4A1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q4A2	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q4K1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q503	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q504	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q505	0TR205800AA	KTD2058-0 KEC
		Q506	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q507	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q508	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q509	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q510	0TR205800AA	KTD2058-0 KEC
		Q601	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q602	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q701	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q702	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q708	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q709	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q801	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q802	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q803	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q804	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q805	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q806	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q807	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q810	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q811	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q812	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q813	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		Q8A2	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A3	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A4	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q8A5	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A6	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q8A7	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q8A8	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q901	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q902	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q903	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q904	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q905	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q906	0TR103009AE	KRC103M-TP (KRC1203) KEC

RESISTOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R001	0RD0822F608	82 1/6W 5 TA26
		R002	0RD0562F608	56 1/6W 5 TA26
		R003	0RD0562F608	56 1/6W 5 TA26
		R005	0RD1001F608	1.0K 1/6W 5 TA26
		R007	0RD1001F608	1.0K 1/6W 5 TA26
		R008	0RD2200F608	220 1/6W 5 TA26
		R009	0RD2201F608	2.2K 1/6W 5 TA26
		R010	0RD1201F608	1.2K 1/6W 5 TA26
		R011	0RD6800F608	680 1/6W 5 TA26
		R012	0RD4704F608	4.7M 1/6W 5 TA26
		R028	0RD1002F608	10K 1/6W 5 TA26
		R029	0RD3903F608	390K 1/6W 5 TA26
		R030	0RD1002F608	10K 1/6W 5 TA26
		R031	0RD1002F608	10K 1/6W 5 TA26
		R032	0RD2200F608	220 1/6W 5 TA26
		R033	0RD2202F608	22K 1/6W 5 TA26
		R034	0RD2202F608	22K 1/6W 5 TA26
		R035	0RD4700F608	470 1/6W 5 TA26
		R036	0RD4700F608	470 1/6W 5 TA26
		R037	0RD6800F608	680 1/6W 5 TA26
		R038	0RD2702F608	27K 1/6W 5 TA26
		R039	0RD1202F608	12K 1/6W 5 TA26
		R040	0RD1001F608	1.0K 1/6W 5 TA26
		R041	0RD2201F608	2.2K 1/6W 5 TA26
		R042	0RD1001F608	1.0K 1/6W 5 TA26
		R0AA	0RD2201F608	2.2K 1/6W 5 TA26
		R101	0RD1001F608	1.0K 1/6W 5 TA26
		R102	0RD1001F608	1.0K 1/6W 5 TA26
		R103	0RD5601F608	5.6K 1/6W 5 TA26
		R104	0RD1502F608	15K 1/6W 5 TA26
		R105	0RD1003F608	100K 1/6W 5 TA26
		R106	0RD8201F608	8.2K 1/6W 5 TA26
		R107	0RD1002F608	10K 1/6W 5 TA26
		R108	0RD2201F608	2.2K 1/6W 5 TA26
		R109	0RD1001F608	1.0K 1/6W 5 TA26
		R112	0RD0101F608	1.0 1/6W 5 TA26
		R113	0RD0101F608	1.0 1/6W 5 TA26
		R114	0RD5600F608	560 1/6W 5 TA26
		R115	0RD2201F608	2.2K 1/6W 5 TA26
		R116	0RD4702F608	47K 1/6W 5 TA26
		R201	0RD2201F608	2.2K 1/6W 5 TA26
		R203	0RD4701F608	4.7K 1/6W 5 TA26
		R204	0RD8202F608	82K 1/6W 5 TA26
		R205	0RD6802F608	68K 1/6W 5 TA26
		R206	0RD1502F608	15K 1/6W 5 TA26
		R207	0RD3301F608	3.3K 1/6W 5 TA26
		R208	0RD1501F608	1.5K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R209	0RD1203F608	120K 1/6W 5 TA26
		R210	0RD1002F608	10K 1/6W 5 TA26
		R211	0RD3302F608	33K 1/6W 5 TA26
		R212	0RD1002F608	10K 1/6W 5 TA26
		R213	0RD3901F608	3.9K 1/6W 5 TA26
		R214	0RD2703F608	270K 1/6W 5 TA26
		R215	0RD6802F608	68K 1/6W 5 TA26
		R216	0RD2702F608	27K 1/6W 5 TA26
		R218	0RD6801F608	6.8K 1/6W 5 TA26
		R219	0RD8203F608	820K 1/6W 5 TA26
		R220	0RD5603F608	560K 1/6W 5 TA26
		R221	0RD8201F608	8.2K 1/6W 5 TA26
		R222	0RD1501F608	1.5K 1/6W 5 TA26
		R223	0RD2701F608	2.7K 1/6W 5 TA26
		R224	0RD6803F608	680K 1/6W 5 TA26
		R225	0RD2702F608	27K 1/6W 5 TA26
		R226	0RD4702F608	47K 1/6W 5 TA26
		R227	0RD4701F608	4.7K 1/6W 5 TA26
		R228	0RD1003F608	100K 1/6W 5 TA26
		R229	0RD1002F608	10K 1/6W 5 TA26
		R230	0RD2701F608	2.7K 1/6W 5 TA26
		R231	0RD3902F608	39K 1/6W 5 TA26
		R232	0RD2201F608	2.2K 1/6W 5 TA26
		R233	0RD1002F608	10K 1/6W 5 TA26
		R234	0RD0101F608	1.0 1/6W 5 TA26
		R235	0RD0101F608	1.0 1/6W 5 TA26
		R236	0RD8201F608	8.2K 1/6W 5 TA26
		R237	0RD1003F608	100K 1/6W 5 TA26
		R238	0RD8202F608	82K 1/6W 5 TA26
		R239	0RD5602F608	56K 1/6W 5 TA26
		R240	0RD4702F608	47K 1/6W 5 TA26
		R241	0RD5601F608	5.6K 1/6W 5 TA26
		R242	0RD4700F608	470 1/6W 5 TA26
		R243	0RD5601F608	5.6K 1/6W 5 TA26
		R244	0RD4700F608	470 1/6W 5 TA26
		R245	0RD1001F608	1.0K 1/6W 5 TA26
		R246	0RD6803F608	680K 1/6W 5 TA26
		R247	0RD1202F608	12K 1/6W 5 TA26
		R248	0RD1001F608	1.0K 1/6W 5 TA26
		R250	0RD6802F608	68K 1/6W 5 TA26
		R251	0RD6802F608	68K 1/6W 5 TA26
		R253	0RD6802F608	68K 1/6W 5 TA26
		R254	0RD4701F608	4.7K 1/6W 5 TA26
		R255	0RD4701F608	4.7K 1/6W 5 TA26
		R256	0RD4701F608	4.7K 1/6W 5 TA26
		R258	0RD3301F608	3.3K 1/6W 5 TA26
		R259	0RD2201F608	2.2K 1/6W 5 TA26
		R260	0RD1002F608	10K 1/6W 5 TA26
		R261	0RD1002F608	10K 1/6W 5 TA26
		R262	0RD4701F608	4.7K 1/6W 5 TA26
		R263	0RD4701F608	4.7K 1/6W 5 TA26
		R264	0RD4701F608	4.7K 1/6W 5 TA26
		R265	0RD2702F608	27K 1/6W 5 TA26
		R266	0RD2702F608	27K 1/6W 5 TA26
		R267	0RD1003F608	100K 1/6W 5 TA26
		R268	0RD3302F608	33K 1/6W 5 TA26
		R269	0RD3302F608	33K 1/6W 5 TA26
		R270	0RD4701F608	4.7K 1/6W 5 TA26
		R271	0RD4701F608	4.7K 1/6W 5 TA26
		R272	0RD4701F608	4.7K 1/6W 5 TA26
		R273	0RD1002F608	10K 1/6W 5 TA26
		R274	0RD4704F608	4.7M 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R275	0RD1003F608	100K 1/6W 5 TA26
		R276	0RD1004F608	1.0M 1/6W 5 TA26
		R290	0RD4701F608	4.7K 1/6W 5 TA26
		R291	0RD4701F608	4.7K 1/6W 5 TA26
		R292	0RD4701F608	4.7K 1/6W 5 TA26
		R293	0RD3301F608	3.3K 1/6W 5 TA26
		R294	0RD1001F608	1.0K 1/6W 5 TA26
		R295	0RD2702F608	27K 1/6W 5 TA26
		R296	0RD1001F608	1.0K 1/6W 5 TA26
		R297	0RD2203F608	220K 1/6W 5 TA26
		R298	0RD4701F608	4.7K 1/6W 5 TA26
		R2A1	0RD1502F608	15K 1/6W 5 TA26
		R2A2	0RD1202F608	12K 1/6W 5 TA26
		R2B1	0RD1002F608	10K 1/6W 5 TA26
		R2B2	0RD2201F608	2.2K 1/6W 5 TA26
		R2M2	0RD2201F608	2.2K 1/6W 5 TA26
		R2M3	0RD2201F608	2.2K 1/6W 5 TA26
		R303	0RD4701F608	4.7K 1/6W 5 TA26
		R304	0RD1002F608	10K 1/6W 5 TA26
		R305	0RD3302F608	33K 1/6W 5 TA26
		R306	0RD1202F608	12K 1/6W 5 TA26
		R307	0RD1202F608	12K 1/6W 5 TA26
		R308	0RD2201F608	2.2K 1/6W 5 TA26
		R309	0RD1001F608	1.0K 1/6W 5 TA26
		R310	0RD1001F608	1.0K 1/6W 5 TA26
		R311	0RD1201F608	1.2K 1/6W 5 TA26
		R312	0RD6801F608	6.8K 1/6W 5 TA26
		R313	0RD5601F608	5.6K 1/6W 5 TA26
		R314	0RD6800F608	680 1/6W 5 TA26
		R315	0RD2202F608	22K 1/6W 5 TA26
		R316	0RD2700F608	270 1/6W 5 TA26
		R317	0RD1201F608	1.2K 1/6W 5 TA26
		R318	0RD6801F608	6.8K 1/6W 5 TA26
		R319	0RD3301F608	3.3K 1/6W 5 TA26
		R320	0RD4701F608	4.7K 1/6W 5 TA26
		R321	0RD1501F608	1.5K 1/6W 5 TA26
		R322	0RD2201F608	2.2K 1/6W 5 TA26
		R323	0RD1001F608	1.0K 1/6W 5 TA26
		R324	0RD2701F608	2.7K 1/6W 5 TA26
		R325	0RD6800F608	680 1/6W 5 TA26
		R326	0RD1001F608	1.0K 1/6W 5 TA26
		R327	0RD2201F608	2.2K 1/6W 5 TA26
		R328	0RD5600F608	560 1/6W 5 TA26
		R329	0RD1004F608	1.0M 1/6W 5 TA26
		R330	0RD8201F608	8.2K 1/6W 5 TA26
		R332	0RD1002F608	10K 1/6W 5 TA26
		R333	0RD2202F608	22K 1/6W 5 TA26
		R334	0RD1001F608	1.0K 1/6W 5 TA26
		R335	0RD1001F608	1.0K 1/6W 5 TA26
		R336	0RD2702F608	27K 1/6W 5 TA26
		R337	0RD1202F608	12K 1/6W 5 TA26
		R338	0RD2201F608	2.2K 1/6W 5 TA26
		R339	0RD3901F608	3.9K 1/6W 5 TA26
		R340	0RD1001F608	1.0K 1/6W 5 TA26
		R341	0RD1002F608	10K 1/6W 5 TA26
		R342	0RD4701F608	4.7K 1/6W 5 TA26
		R343	0RD2201F608	2.2K 1/6W 5 TA26
		R344	0RD1501F608	1.5K 1/6W 5 TA26
		R345	0RD1001F608	1.0K 1/6W 5 TA26
		R346	0RD1001F608	1.0K 1/6W 5 TA26
		R347	0RD1002F608	10K 1/6W 5 TA26
		R348	0RD1802F608	18K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R349	0RD4701F608	4.7K 1/6W 5 TA26
		R350	0RD1201F608	1.2K 1/6W 5 TA26
		R351	0RD5600F608	560 1/6W 5 TA26
		R352	0RD3300F608	330 1/6W 5 TA26
		R353	0RD8200F608	820 1/6W 5 TA26
		R355	0RD2701F608	2.7K 1/6W 5 TA26
		R356	0RD5602F608	56K 1/6W 5 TA26
		R357	0RD1002F608	10K 1/6W 5 TA26
		R359	0RD1002F608	10K 1/6W 5 TA26
		R360	0RD1002F608	10K 1/6W 5 TA26
		R361	0RD1001F608	1.0K 1/6W 5 TA26
		R362	0RD1001F608	1.0K 1/6W 5 TA26
		R363	0RD1001F608	1.0K 1/6W 5 TA26
		R364	0RD1201F608	1.2K 1/6W 5 TA26
		R365	0RD2701F608	2.7K 1/6W 5 TA26
		R366	0RD1202F608	12K 1/6W 5 TA26
		R367	0RD4702F608	47K 1/6W 5 TA26
		R368	0RD1200F608	120 1/6W 5 TA26
		R369	0RD8200F608	820 1/6W 5 TA26
		R370	0RD1000F608	100 1/6W 5 TA26
		R372	0RD5601F608	5.6K 1/6W 5 TA26
		R373	0RD0272F608	27 1/6W 5 TA26
		R374	0RD2201F608	2.2K 1/6W 5 TA26
		R375	0RD1503F608	150K 1/6W 5 TA26
		R376	0RD1001F608	1.0K 1/6W 5 TA26
		R377	0RD2202F608	22K 1/6W 5 TA26
		R378	0RD1001F608	1.0K 1/6W 5 TA26
		R399	0RD8200F608	820 1/6W 5 TA26
		R3A0	0RD1502F608	15K 1/6W 5 TA26
		R3A1	0RD1202F608	12K 1/6W 5 TA26
		R3A2	0RD1002F608	10K 1/6W 5 TA26
		R3A3	0RD5600F608	560 1/6W 5 TA26
		R3A4	0RD2700F608	270 1/6W 5 TA26
		R3A5	0RD4701F608	4.7K 1/6W 5 TA26
		R3A6	0RD5600F608	560 1/6W 5 TA26
		R3A7	0RD2201F608	2.2K 1/6W 5 TA26
		R3A8	0RD1001F608	1.0K 1/6W 5 TA26
		R3A9	0RD2702F608	27K 1/6W 5 TA26
		R3B0	0RD6802F608	68K 1/6W 5 TA26
		R3B1	0RD4700F608	470 1/6W 5 TA26
		R3B2	0RD1802F608	18K 1/6W 5 TA26
		R3B3	0RD1802F608	18K 1/6W 5 TA26
		R3B4	0RD4701F608	4.7K 1/6W 5 TA26
		R3B5	0RD1501F608	1.5K 1/6W 5 TA26
		R3B6	0RD1001F608	1.0K 1/6W 5 TA26
		R3B7	0RD1001F608	1.0K 1/6W 5 TA26
		R3B8	0RD1001F608	1.0K 1/6W 5 TA26
		R3B9	0RD6802F608	68K 1/6W 5 TA26
		R3C0	0RD2700F608	270 1/6W 5 TA26
		R3C2	0RD3302F608	33K 1/6W 5 TA26
		R3C3	0RD6802F608	68K 1/6W 5 TA26
		R3C4	0RD1001F608	1.0K 1/6W 5 TA26
		R3C5	0RD2700F608	270 1/6W 5 TA26
		R3C6	0RD1004F608	1.0M 1/6W 5 TA26
		R3C7	0RD4700F608	470 1/6W 5 TA26
		R3C8	0RD1001F608	1.0K 1/6W 5 TA26
		R3D0	0RD1201F608	1.2K 1/6W 5 TA26
		R3D1	0RD3902F608	39K 1/6W 5 TA26
		R3D2	0RD1802F608	18K 1/6W 5 TA26
		R3D4	0RD4701F608	4.7K 1/6W 5 TA26
		R3D5	0RD4701F608	4.7K 1/6W 5 TA26
		R3D7	0RD2201F608	2.2K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R3D9	0RD6801F608	6.8K 1/6W 5 TA26
		R3E0	0RD1002F608	10K 1/6W 5 TA26
		R3E1	0RD8200F608	820 1/6W 5 TA26
		R3E2	0RD2700F608	270 1/6W 5 TA26
		R3E3	0RD3301F608	3.3K 1/6W 5 TA26
		R3E4	0RD1801F608	1.8K 1/6W 5 TA26
		R3E5	0RD4700F608	470 1/6W 5 TA26
		R3E6	0RD4700F608	470 1/6W 5 TA26
		R3E7	0RD1200F608	120 1/6W 5 TA26
		R3E8	0RD5600F608	560 1/6W 5 TA26
		R3E9	0RD1002F608	10K 1/6W 5 TA26
		R3F1	0RD3302F608	33K 1/6W 5 TA26
		R3F2	0RD4701F608	4.7K 1/6W 5 TA26
		R3F3	0RD1003F608	100K 1/6W 5 TA26
		R3F4	0RD2201F608	2.2K 1/6W 5 TA26
		R3F5	0RD2203F608	220K 1/6W 5 TA26
		R3F6	0RD4703F608	470K 1/6W 5 TA26
		R3F7	0RD1003F608	100K 1/6W 5 TA26
		R3F8	0RD1003F608	100K 1/6W 5 TA26
		R3F9	0RD2202F608	22K 1/6W 5 TA26
		R3G1	0RD2201F608	2.2K 1/6W 5 TA26
		R3G2	0RD2201F608	2.2K 1/6W 5 TA26
		R3G3	0RD4701F608	4.7K 1/6W 5 TA26
		R3H1	0RD1002F608	10K 1/6W 5 TA26
		R3H2	0RD1002F608	10K 1/6W 5 TA26
		R3J0	0RD1001F608	1.0K 1/6W 5 TA26
		R3J1	0RD3301F608	3.3K 1/6W 5 TA26
		R3J6	0RD2201F608	2.2K 1/6W 5 TA26
		R3J7	0RD0101F608	1.0 1/6W 5 TA26
		R3J8	0RD1002F608	10K 1/6W 5 TA26
		R3J9	0RD1002F608	10K 1/6W 5 TA26
		R3K1	0RD4701F608	4.7K 1/6W 5 TA26
		R3X1	0RD1002F608	10K 1/6W 5 TA26
		R3X2	0RD5600F608	560 1/6W 5 TA26
		R401	0RD1001F608	1.0K 1/6W 5 TA26
		R402	0RD1001F608	1.0K 1/6W 5 TA26
		R403	0RD1801F608	1.8K 1/6W 5 TA26
		R404	0RD1501F608	1.5K 1/6W 5 TA26
		R405	0RD1501F608	1.5K 1/6W 5 TA26
		R406	0RD1801F608	1.8K 1/6W 5 TA26
		R408	0RD1802F608	18K 1/6W 5 TA26
		R409	0RD8201F608	8.2K 1/6W 5 TA26
		R410	0RD1001F608	1.0K 1/6W 5 TA26
		R411	0RD1004F608	1.0M 1/6W 5 TA26
		R412	0RD8201F608	8.2K 1/6W 5 TA26
		R413	0RD1202F608	12K 1/6W 5 TA26
		R414	0RD3303F608	330K 1/6W 5 TA26
		R415	0RD1500F608	150 1/6W 5 TA26
		R416	0RD1000F608	100 1/6W 5 TA26
		R417	0RD0562F608	56 1/6W 5 TA26
		R418	0RD1802F608	18K 1/6W 5 TA26
		R419	0RD2701F608	2.7K 1/6W 5 TA26
		R420	0RD5601F608	5.6K 1/6W 5 TA26
		R421	0RD1003F608	100K 1/6W 5 TA26
		R422	0RD2702F608	27K 1/6W 5 TA26
		R423	0RD1002F608	10K 1/6W 5 TA26
		R424	0RD4702F608	47K 1/6W 5 TA26
		R425	0RD4702F608	47K 1/6W 5 TA26
		R426	0RD6801F608	6.8K 1/6W 5 TA26
		R427	0RD0472F608	47 1/6W 5 TA26
		R428	0RD2702F608	27K 1/6W 5 TA26
		R429	0RD0102F608	10 1/6W 5 TA26
		R430	0RD5601F608	5.6K 1/6W 5 TA26
		R431	0RD0472F608	47 1/6W 5 TA26
		R432	0RD2702F608	27K 1/6W 5 TA26
		R433	0RD0102F608	10 1/6W 5 TA26
		R434	0RD5601F608	5.6K 1/6W 5 TA26
		R435	0RD4700F608	470 1/6W 5 TA26
		R436	0RD0102F608	10 1/6W 5 TA26
		R437	0RD1003F608	100K 1/6W 5 TA26
		R438	0RD6802F608	68K 1/6W 5 TA26
		R450	0RD4700F608	470 1/6W 5 TA26
		R451	0RD2203F608	220K 1/6W 5 TA26
		R452	0RD1802F608	18K 1/6W 5 TA26
		R453	0RD5600F608	560 1/6W 5 TA26
		R4A0	0RD3302F608	33K 1/6W 5 TA26
		R4A1	0RD3302F608	33K 1/6W 5 TA26
		R4A2	0RD1802F608	18K 1/6W 5 TA26
		R4A3	0RD8200F608	820 1/6W 5 TA26
		R4A4	0RD4700F608	470 1/6W 5 TA26
		R4A5	0RD4700F608	470 1/6W 5 TA26
		R4A6	0RD1001F608	1.0K 1/6W 5 TA26
		R4A7	0RD1001F608	1.0K 1/6W 5 TA26
		R4A8	0RD6801F608	6.8K 1/6W 5 TA26
		R4A9	0RD1001F608	1.0K 1/6W 5 TA26
		R4B1	0RD1002F608	10K 1/6W 5 TA26
		R4B2	0RD1002F608	10K 1/6W 5 TA26
		R4B3	0RD5601F608	5.6K 1/6W 5 TA26
		R4B4	0RD5601F608	5.6K 1/6W 5 TA26
		R4B6	0RD2202F608	22K 1/6W 5 TA26
		R4B7	0RD1504F608	1.5M 1/6W 5 TA26
		R4K0	0RD4701F608	4.7K 1/6W 5 TA26
		R4K1	0RD4701F608	4.7K 1/6W 5 TA26
		R4K2	0RD6800F608	680 1/6W 5 TA26
		R4K3	0RD6800F608	680 1/6W 5 TA26
		R4K4	0RD3302F608	33K 1/6W 5 TA26
		R4K5	0RD2202F608	22K 1/6W 5 TA26
		R4K6	0RD1004F608	1.0M 1/6W 5 TA26
		R4K7	0RD4701F608	4.7K 1/6W 5 TA26
		R4K8	0RD4701F608	4.7K 1/6W 5 TA26
		R4K9	0RD4701F608	4.7K 1/6W 5 TA26
		R4L0	0RD4703F608	470K 1/6W 5 TA26
		R4L1	0RD4701F608	4.7K 1/6W 5 TA26
		R4L2	0RD1202F608	12K 1/6W 5 TA26
		R4L3	0RD3301F608	3.3K 1/6W 5 TA26
		R4L4	0RD2202F608	22K 1/6W 5 TA26
		R4L5	0RD1003F608	100K 1/6W 5 TA26
		R4L6	0RD2202F608	22K 1/6W 5 TA26
		R4L7	0RD4701F608	4.7K 1/6W 5 TA26
		R4L8	0RD2202F608	22K 1/6W 5 TA26
		R4L9	0RD2201F608	2.2K 1/6W 5 TA26
		R4M1	0RD8203F608	820K 1/6W 5 TA26
		R4M2	0RD6803F608	680K 1/6W 5 TA26
		R4P2	0RD1001F608	1.0K 1/6W 5 TA26
		R4P3	0RD0562F608	56 1/6W 5 TA26
		R4P4	0RD1001F608	1.0K 1/6W 5 TA26
		R501	0RD4701F608	4.7K 1/6W 5 TA26
		R502	0RD1002F608	10K 1/6W 5 TA26
		R503	0RD1002F608	10K 1/6W 5 TA26
		R504	0RD1003F608	100K 1/6W 5 TA26
		R505	0RD1003F608	100K 1/6W 5 TA26
		R506	0RD1003F608	100K 1/6W 5 TA26
		R507	0RD1003F608	100K 1/6W 5 TA26
		R508	0RD1003F608	100K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION	S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R509	0RD1003F608	100K 1/6W 5 TA26			R582	0RD1002F608	10K 1/6W 5 TA26
		R510	0RD1003F608	100K 1/6W 5 TA26			R583	0RD1002F608	10K 1/6W 5 TA26
		R511	0RD1003F608	100K 1/6W 5 TA26			R584	0RD1002F608	10K 1/6W 5 TA26
		R512	0RD1003F608	100K 1/6W 5 TA26			R585	0RD4700F608	470 1/6W 5 TA26
		R513	0RD1003F608	100K 1/6W 5 TA26			R586	0RD4701F608	4.7K 1/6W 5 TA26
		R514	0RD1003F608	100K 1/6W 5 TA26			R587	0RD1002F608	10K 1/6W 5 TA26
		R515	0RD1003F608	100K 1/6W 5 TA26			R588	0RD2702F608	27K 1/6W 5 TA26
		R516	0RD1003F608	100K 1/6W 5 TA26			R589	0RD2702F608	27K 1/6W 5 TA26
		R517	0RD1003F608	100K 1/6W 5 TA26			R590	0RD2702F608	27K 1/6W 5 TA26
		R518	0RD1003F608	100K 1/6W 5 TA26			R5A1	0RD4702F608	47K 1/6W 5 TA26
		R520	0RD1800F608	180 1/6W 5 TA26			R5A2	0RD1503F608	150K 1/6W 5 TA26
		R521	0RD1800F608	180 1/6W 5 TA26			R5A3	0RD1503F608	150K 1/6W 5 TA26
		R522	0RD1800F608	180 1/6W 5 TA26			R5A4	0RD4702F608	47K 1/6W 5 TA26
		R523	0RD4702F608	47K 1/6W 5 TA26			R5A6	0RD1002F608	10K 1/6W 5 TA26
		R524	0RD4701F608	4.7K 1/6W 5 TA26			R601	0RD3300F608	330 1/6W 5 TA26
		R525	0RD4701F608	4.7K 1/6W 5 TA26			R602	0RD3900F608	390 1/6W 5 TA26
		R526	0RD4701F608	4.7K 1/6W 5 TA26			R603	0RD4700F608	470 1/6W 5 TA26
		R527	0RD4701F608	4.7K 1/6W 5 TA26			R604	0RD6800F608	680 1/6W 5 TA26
		R528	0RD1002F608	10K 1/6W 5 TA26			R605	0RD1001F608	1.0K 1/6W 5 TA26
		R529	0RD4701F608	4.7K 1/6W 5 TA26			R606	0RD1501F608	1.5K 1/6W 5 TA26
		R530	0RD4701F608	4.7K 1/6W 5 TA26			R607	0RD2201F608	2.2K 1/6W 5 TA26
		R531	0RD1002F608	10K 1/6W 5 TA26			R609	0RD1200F608	120 1/6W 5 TA26
		R532	0RD1002F608	10K 1/6W 5 TA26			R610	0RD1002F608	10K 1/6W 5 TA26
		R535	0RD1802F608	18K 1/6W 5 TA26			R611	0RD0752F608	75 1/6W 5 TA26
		R536	0RD1802F608	18K 1/6W 5 TA26			R612	0RD3302F608	33K 1/6W 5 TA26
		R537	0RD8203F608	820K 1/6W 5 TA26			R613	0RD0101F608	1.0 1/6W 5 TA26
		R538	0RD8203F608	820K 1/6W 5 TA26			R614	0RD0101F608	1.0 1/6W 5 TA26
		R539	0RD1503F608	150K 1/6W 5 TA26			R615	0RD4701F608	4.7K 1/6W 5 TA26
		R540	0RD1503F608	150K 1/6W 5 TA26			R616	0RD4701F608	4.7K 1/6W 5 TA26
		R541	0RD4701F608	4.7K 1/6W 5 TA26			R617	0RD4701F608	4.7K 1/6W 5 TA26
		R542	0RD1501F608	1.5K 1/6W 5 TA26			R621	0RD2200F608	220 1/6W 5 TA26
		R551	0RD4700F608	470 1/6W 5 TA26			R622	0RD5601F608	5.6K 1/6W 5 TA26
		R552	0RD1002F608	10K 1/6W 5 TA26			R623	0RD3301F608	3.3K 1/6W 5 TA26
		R553	0RD1002F608	10K 1/6W 5 TA26			R624	0RD2201F608	2.2K 1/6W 5 TA26
		R554	0RD1002F608	10K 1/6W 5 TA26			R625	0RD1501F608	1.5K 1/6W 5 TA26
		R555	0RD1002F608	10K 1/6W 5 TA26			R626	0RD1001F608	1.0K 1/6W 5 TA26
		R556	0RD1002F608	10K 1/6W 5 TA26			R627	0RD6800F608	680 1/6W 5 TA26
		R557	0RD4701F608	4.7K 1/6W 5 TA26			R628	0RD4700F608	470 1/6W 5 TA26
		R558	0RD0221F608	2.2 1/6W 5 TA26			R629	0RD3900F608	390 1/6W 5 TA26
		R559	0RD0221F608	2.2 1/6W 5 TA26			R630	0RD3300F608	330 1/6W 5 TA26
		R560	0RD0221F608	2.2 1/6W 5 TA26			R631	0RD2203F608	220K 1/6W 5 TA26
		R561	0RD1003F608	100K 1/6W 5 TA26			R633	0RD1001F608	1.0K 1/6W 5 TA26
		R562	0RD5601F608	5.6K 1/6W 5 TA26			R634	0RD6802F608	68K 1/6W 5 TA26
		R563	0RD6800F608	680 1/6W 5 TA26			R635	0RD2203F608	220K 1/6W 5 TA26
		R564	0RD1004F608	1.0M 1/6W 5 TA26			R636	0RD2203F608	220K 1/6W 5 TA26
		R565	0RD1204F608	1.2M 1/6W 5 TA26			R637	0RD0471F608	4.7 1/6W 5 TA26
		R566	0RD2202F608	22K 1/6W 5 TA26			R651	0RD1002F608	10K 1/6W 5 TA26
		R567	0RD3301F608	3.3K 1/6W 5 TA26			R671	0RD1201F608	1.2K 1/6W 5 TA26
		R568	0RD4701F608	4.7K 1/6W 5 TA26			R701	0RD1000F608	100 1/6W 5 TA26
		R569	0RD2201F608	2.2K 1/6W 5 TA26			R702	0RD6801F608	6.8K 1/6W 5 TA26
		R570	0RD0101F608	1.0 1/6W 5 TA26			R703	0RD1201F608	1.2K 1/6W 5 TA26
		R571	0RD0101F608	1.0 1/6W 5 TA26			R704	0RD3900F608	390 1/6W 5 TA26
		R572	0RD0101F608	1.0 1/6W 5 TA26			R705	0RD0682F608	68 1/6W 5 TA26
		R573	0RD0101F608	1.0 1/6W 5 TA26			R706	0RD2200F608	220 1/6W 5 TA26
		R574	0RD1002F608	10K 1/6W 5 TA26			R707	0RD3300F608	330 1/6W 5 TA26
		R575	0RD1002F608	10K 1/6W 5 TA26			R708	0RD1201F608	1.2K 1/6W 5 TA26
		R576	0RD3300F608	330 1/6W 5 TA26			R715	0RD2201F608	2.2K 1/6W 5 TA26
		R577	0RD1002F608	10K 1/6W 5 TA26			R716	0RD3900F608	390 1/6W 5 TA26
		R578	0RD2701F608	2.7K 1/6W 5 TA26			R717	0RD2201F608	2.2K 1/6W 5 TA26
		R579	0RD1003F608	100K 1/6W 5 TA26			R718	0RD1001F608	1.0K 1/6W 5 TA26
		R580	0RD1002F608	10K 1/6W 5 TA26			R720	0RD1001F608	1.0K 1/6W 5 TA26
		R581	0RD1002F608	10K 1/6W 5 TA26			R721	0RD1002F608	10K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R722	0RD1802F608	18K 1/6W 5 TA26
		R724	0RD3300F608	330 1/6W 5 TA26
		R725	0RD5600F608	560 1/6W 5 TA26
		R726	0RD1002F608	10K 1/6W 5 TA26
		R727	0RD5601F608	5.6K 1/6W 5 TA26
		R728	0RD1201F608	1.2K 1/6W 5 TA26
		R729	0RD6800F608	680 1/6W 5 TA26
		R801	0RD5601F608	5.6K 1/6W 5 TA26
		R802	0RD1002F608	10K 1/6W 5 TA26
		R803	0RD1002F608	10K 1/6W 5 TA26
		R804	0RD4701F608	4.7K 1/6W 5 TA26
		R805	0RD4702F608	47K 1/6W 5 TA26
		R806	0RD2202F608	22K 1/6W 5 TA26
		R807	0RD1201F608	1.2K 1/6W 5 TA26
		R808	0RD1201F608	1.2K 1/6W 5 TA26
		R809	0RD1201F608	1.2K 1/6W 5 TA26
		R810	0RD3900F608	390 1/6W 5 TA26
		R811	0RD0682F608	68 1/6W 5 TA26
		R812	0RD0752F608	75 1/6W 5 TA26
		R813	0RD1001F608	1.0K 1/6W 5 TA26
		R814	0RD1001F608	1.0K 1/6W 5 TA26
		R815	0RD0752F608	75 1/6W 5 TA26
		R816	0RD1001F608	1.0K 1/6W 5 TA26
		R817	0RD1001F608	1.0K 1/6W 5 TA26
		R818	0RD1003F608	100K 1/6W 5 TA26
		R819	0RD6802F608	68K 1/6W 5 TA26
		R820	0RD3301F608	3.3K 1/6W 5 TA26
		R821	0RD1001F608	1.0K 1/6W 5 TA26
		R822	0RD1003F608	100K 1/6W 5 TA26
		R823	0RD6802F608	68K 1/6W 5 TA26
		R824	0RD3301F608	3.3K 1/6W 5 TA26
		R825	0RD1001F608	1.0K 1/6W 5 TA26
		R826	0RD1001F608	1.0K 1/6W 5 TA26
		R827	0RD3301F608	3.3K 1/6W 5 TA26
		R828	0RD1003F608	100K 1/6W 5 TA26
		R829	0RD6802F608	68K 1/6W 5 TA26
		R830	0RD1001F608	1.0K 1/6W 5 TA26
		R831	0RD3301F608	3.3K 1/6W 5 TA26
		R832	0RD1003F608	100K 1/6W 5 TA26
		R833	0RD6802F608	68K 1/6W 5 TA26
		R834	0RD0682F608	68 1/6W 5 TA26
		R838	0RD3302F608	33K 1/6W 5 TA26
		R839	0RD1002F608	10K 1/6W 5 TA26
		R840	0RD4701F608	4.7K 1/6W 5 TA26
		R841	0RD4701F608	4.7K 1/6W 5 TA26
		R842	0RD3900F608	390 1/6W 5 TA26
		R843	0RD2201F608	2.2K 1/6W 5 TA26
		R844	0RD1002F608	10K 1/6W 5 TA26
		R845	0RD6803F608	680K 1/6W 5 TA26
		R846	0RD3300F608	330 1/6W 5 TA26
		R847	0RD6802F608	68K 1/6W 5 TA26
		R848	0RD3901F608	3.9K 1/6W 5 TA26
		R849	0RD4701F608	4.7K 1/6W 5 TA26
		R850	0RD4700F608	470 1/6W 5 TA26
		R851	0RD1001F608	1.0K 1/6W 5 TA26
		R852	0RD3300F608	330 1/6W 5 TA26
		R853	0RD3300F608	330 1/6W 5 TA26
		R854	0RD3900F608	390 1/6W 5 TA26
		R855	0RD1203F608	120K 1/6W 5 TA26
		R871	0RD0221F608	2.2 1/6W 5 TA26
		R872	0RD0221F608	2.2 1/6W 5 TA26
		R873	0RD1003F608	100K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R8A0	0RD3901F608	3.9K 1/6W 5 TA26
		R8A1	0RD4701F608	4.7K 1/6W 5 TA26
		R8A2	0RD4701F608	4.7K 1/6W 5 TA26
		R8A3	0RD4701F608	4.7K 1/6W 5 TA26
		R8A4	0RD0752F608	75 1/6W 5 TA26
		R8A5	0RD1002F608	10K 1/6W 5 TA26
		R8A6	0RD2203F608	220K 1/6W 5 TA26
		R8A7	0RD3900F608	390 1/6W 5 TA26
		R8A8	0RD4703F608	470K 1/6W 5 TA26
		R8A9	0RD2702F608	27K 1/6W 5 TA26
		R8B0	0RD1001F608	1.0K 1/6W 5 TA26
		R8B1	0RD3301F608	3.3K 1/6W 5 TA26
		R8B2	0RD1801F608	1.8K 1/6W 5 TA26
		R8B3	0RD0752F608	75 1/6W 5 TA26
		R8B4	0RD4701F608	4.7K 1/6W 5 TA26
		R8B5	0RD1001F608	1.0K 1/6W 5 TA26
		R8B6	0RD4701F608	4.7K 1/6W 5 TA26
		R8B7	0RD1802F608	18K 1/6W 5 TA26
		R8B8	0RD1202F608	12K 1/6W 5 TA26
		R8B9	0RD1001F608	1.0K 1/6W 5 TA26
		R8C1	0RD1001F608	1.0K 1/6W 5 TA26
		R8C5	0RD0822F608	82 1/6W 5 TA26
		R8C6	0RD1001F608	1.0K 1/6W 5 TA26
		R901	0RD0752F608	75 1/6W 5 TA26
		R902	0RD0562F608	56 1/6W 5 TA26
		R903	0RD0752F608	75 1/6W 5 TA26
		R904	0RD0752F608	75 1/6W 5 TA26
		R905	0RD1502F608	15K 1/6W 5 TA26
		R906	0RD1002F608	10K 1/6W 5 TA26
		R907	0RD5601F608	5.6K 1/6W 5 TA26
		R908	0RD4703F608	470K 1/6W 5 TA26
		R909	0RD3903F608	390K 1/6W 5 TA26
		R910	0RD1001F608	1.0K 1/6W 5 TA26
		R911	0RD2201F608	2.2K 1/6W 5 TA26
		R912	0RD2201F608	2.2K 1/6W 5 TA26
		R913	0RD3900F608	390 1/6W 5 TA26
		R914	0RD3900F608	390 1/6W 5 TA26
		R915	0RD1201F608	1.2K 1/6W 5 TA26
		R916	0RD5601F608	5.6K 1/6W 5 TA26
		R917	0RD1201F608	1.2K 1/6W 5 TA26
		R918	0RD1001F608	1.0K 1/6W 5 TA26
		R919	0RD1001F608	1.0K 1/6W 5 TA26
		R920	0RD1800F608	180 1/6W 5 TA26
		R922	0RD1201F608	1.2K 1/6W 5 TA26
		W287	0RD5601F608	5.6K 1/6W 5 TA26
		W652	0RD1001F608	1.0K 1/6W 5 TA26

REMOCON RECEIVER

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R/C601	668-226B	R/C RECEIVER(KTC.H=11.5) 33G

SCART

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		JK801	573-006C	RGB SOKET SR-21S3 21PIN (BK)
		JK802	573-006D	RGB (BLUE)

SWITCH

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		SW601	556-219A	SKHV10910A (GS ALPS)
		SW602	556-219A	SKHV10910A (GS ALPS)
		SW603	556-219A	SKHV10910A (GS ALPS)
		SW604	556-219A	SKHV10910A (GS ALPS)
		SW605	556-219A	SKHV10910A (GS ALPS)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		SW606	556-219A	SKHV10910A (GS ALPS)
		SW607	556-219A	SKHV10910A (GS ALPS)
		SW608	556-219A	SKHV10910A (GS ALPS)
		SW621	556-219A	SKHV10910A (GS ALPS)
		SW622	556-219A	SKHV10910A (GS ALPS)
		SW623	556-219A	SKHV10910A (GS ALPS)
		SW624	556-219A	SKHV10910A (GS ALPS)
		SW625	556-219A	SKHV10910A (GS ALPS)
		SW626	556-219A	SKHV10910A (GS ALPS)
		SW627	556-219A	SKHV10910A (GS ALPS)
		SW628	556-219A	SKHV10910A (GS ALPS)
		SW629	556-219A	SKHV10910A (GS ALPS)
		SW630	556-219A	SKHV10910A (GS ALPS)

TUNER

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
*		TU701	521-402A	ENV-57862G3 FS/PLL HYPER MATS

VARIABLE RESISTOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		VR201	613-032U	RH0638C15R0WA (100K)
		VR301	613-032N	RH0638C14R14A (10K)
		VR302	613-032G	RH0638C13R0VA (1K)
		VR303	613-032N	RH0638C14R14A (10K)
		VR304	613-032L	RH0638CS3R0WA (4.7K)
		VR305	613-032Q	RH0638CJ4R0WA (22K)
		VR3A1	613-032U	RH0638C15R0WA (100K)
		VR401	613-032W	RH0638CJ5R (220K)
		VR4A1	613-032N	RH0638C14R14A (10K)
		VR4A2	613-032N	RH0638C14R14A (10K)
		VR501	613-032N	RH0638C14R14A (10K)
		VR701	613-032Q	RH0638CJ4R0WA (22K)

CRYSTAL

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		X202	529-001D	32.768KHZ(2X6) SEIKO
		X301	529-020P	4.433619MHZ 15PPM GRAY L=4.0
	OR	X301	529-027P	4.433619MHZ 15PPM KSS
		X3A1	529-022F	4.433619M 30PPM CL=16P DL=1M
		X4K1	529-022E	11.71875 30PPM CL=10P DL=1M
		X501	529-020R	12.000000MHZ 30PPM NO-TU L=4.0
		X801	529-019A	CSB500F-9 MURATA
		X8A1	529-022H	17.734476MHZ CL=16P 20PPM 4.0

RESONATOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		X201	618-017A	FCR6.0MCT2 TDK-J(TAPING)

ZENER DIODE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		ZD101	0DZ330009AF	MTZ33B,TP,ROHM-K
		ZD102	0DZ270009CA	MTZ27C TP ROHM-KOREA
		ZD103	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD201	0DZ820009AA	MTZ8.2B TP ROHM-K
		ZD301	0DZ100009AA	MTZ10B MINI TP ROHM-K
		ZD401	0DZ100009AA	MTZ10B MINI TP ROHM-K
		ZD501	0DZ620009AA	MTZ6.2B (TA)
		ZD601	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD602	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD603	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD605	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD606	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD607	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD608	0DZ560009CA	MTZ5.6B TP ROHM-K

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		ZD801	0DZ130009AC	MTZ13B TP ROHM-K
		ZD802	0DZ130009AC	MTZ13B TP ROHM-K
		ZD803	0DZ130009AC	MTZ13B TP ROHM-K
		ZD804	0DZ130009AC	MTZ13B TP ROHM-K